

FIG. 1A

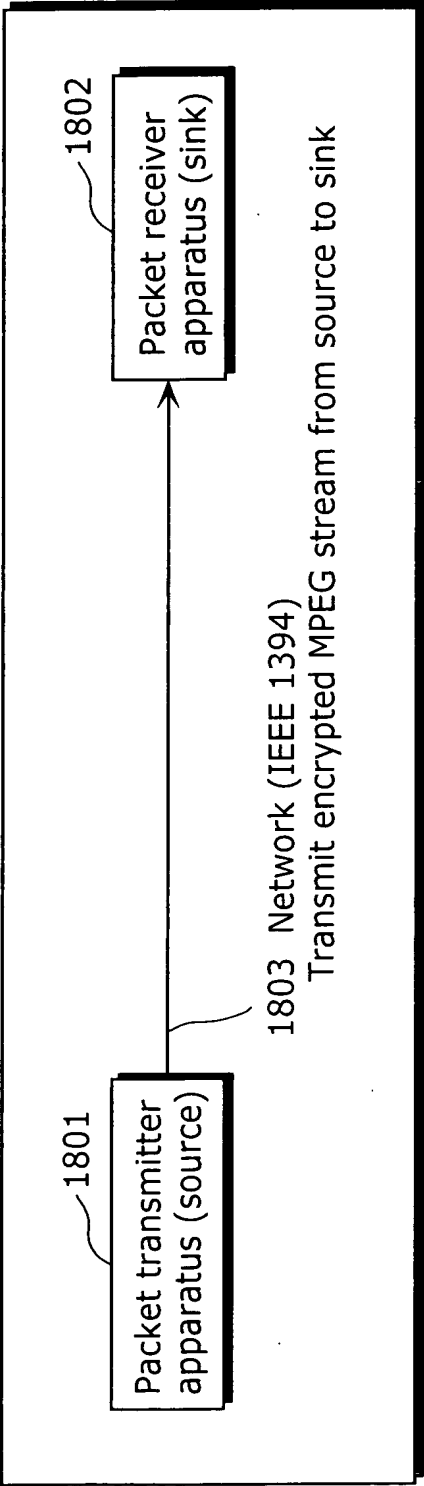


FIG. 1B

Example of transmitter apparatus (source)	Example of receiver apparatus (sink)	Encrypt contents in transmission
DVHS	DVHS	Perform content protection of MPEG-TS using DTCP system
HDD recorder	HDD recorder	
STB mounting 1394	STB mounting 1394	
Digital TV mounting 1394	Digital TV mounting 1394	

FIG. 2

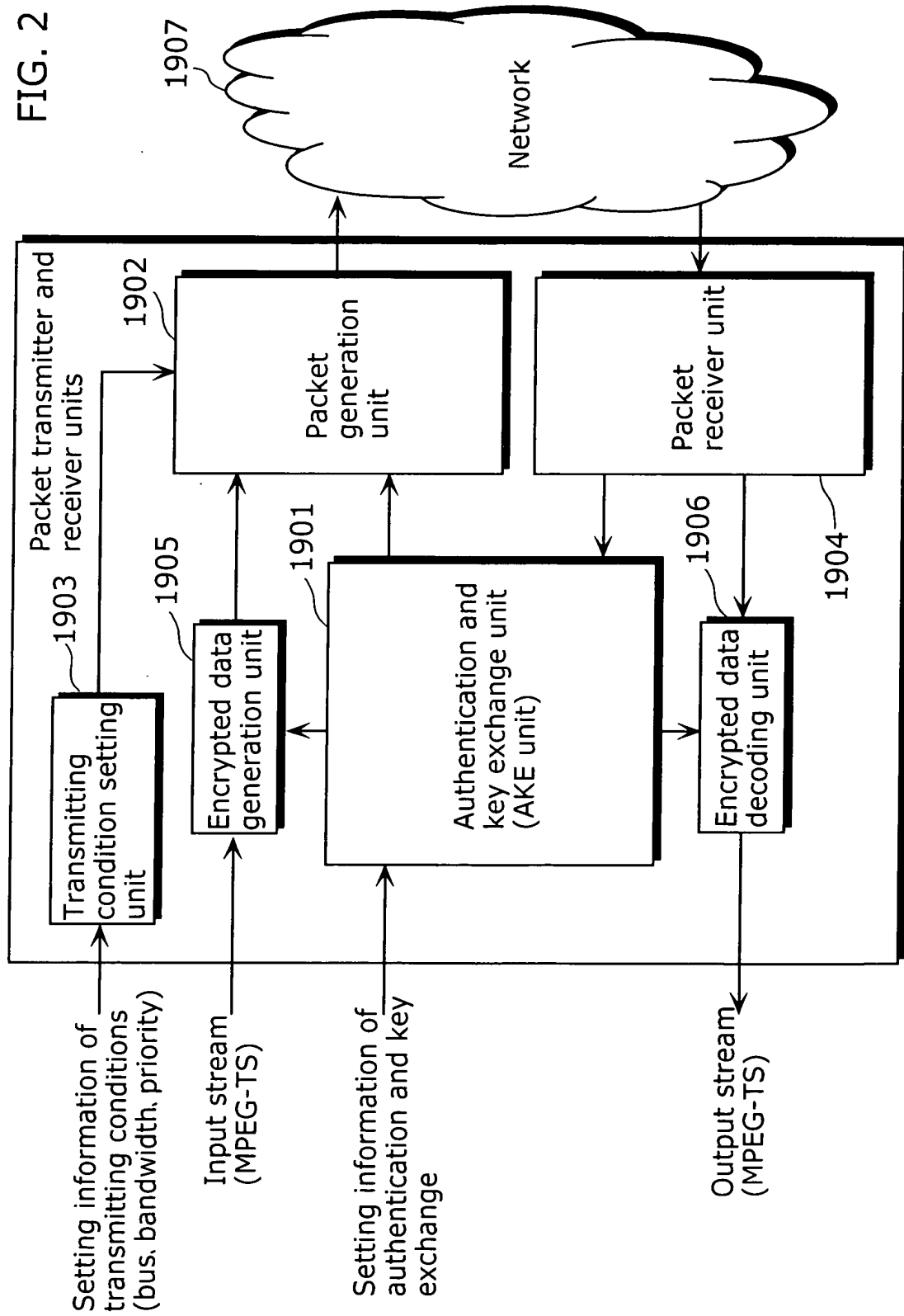


FIG. 3

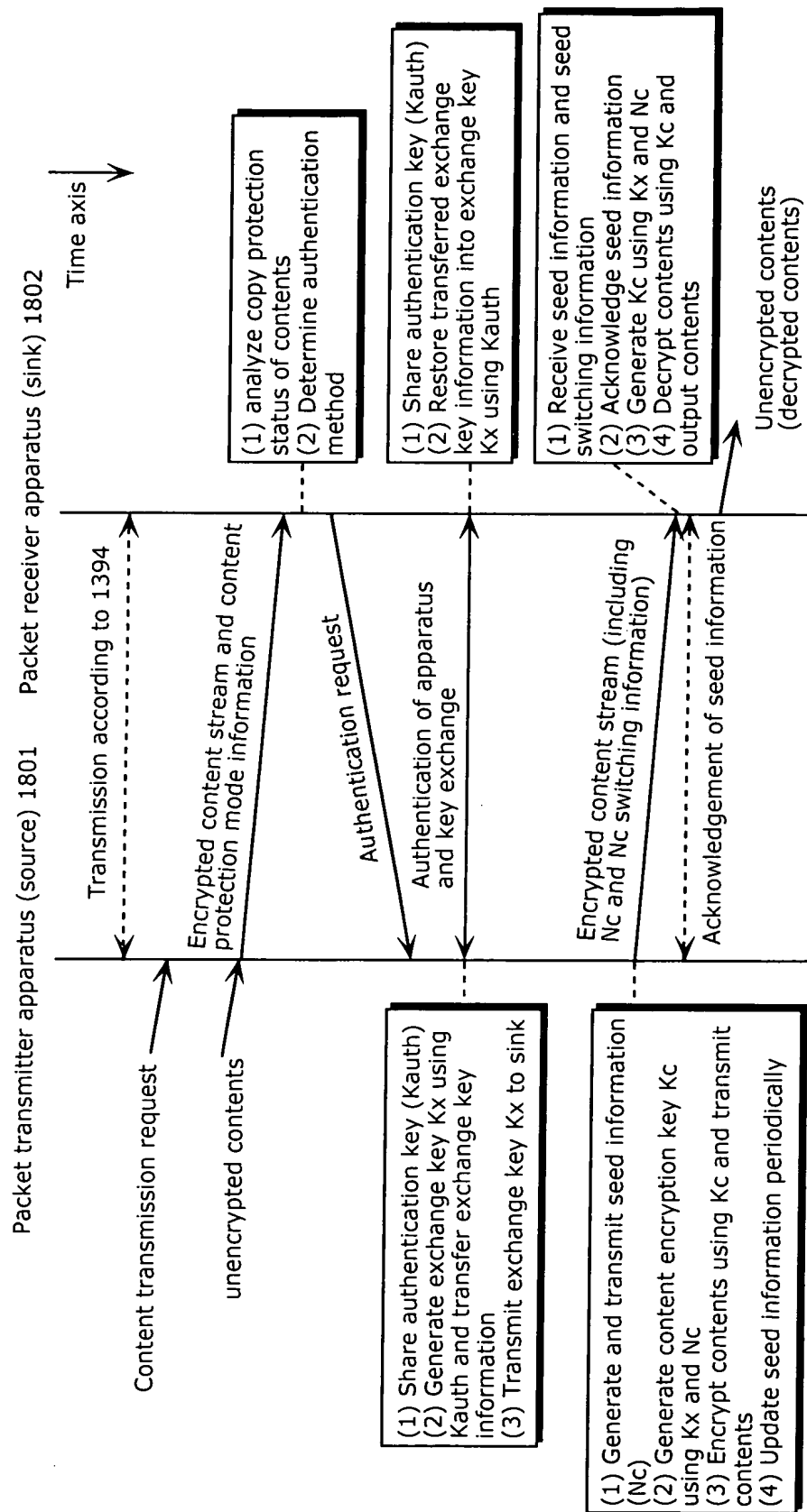


FIG. 4

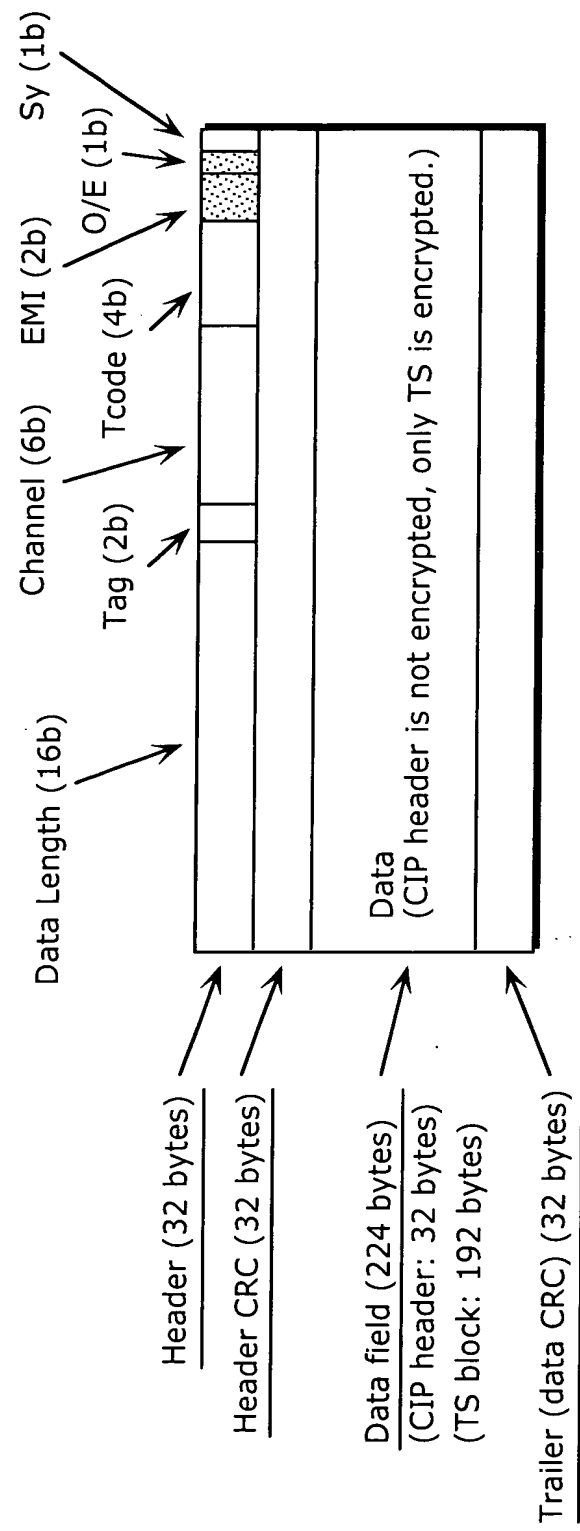


FIG. 5

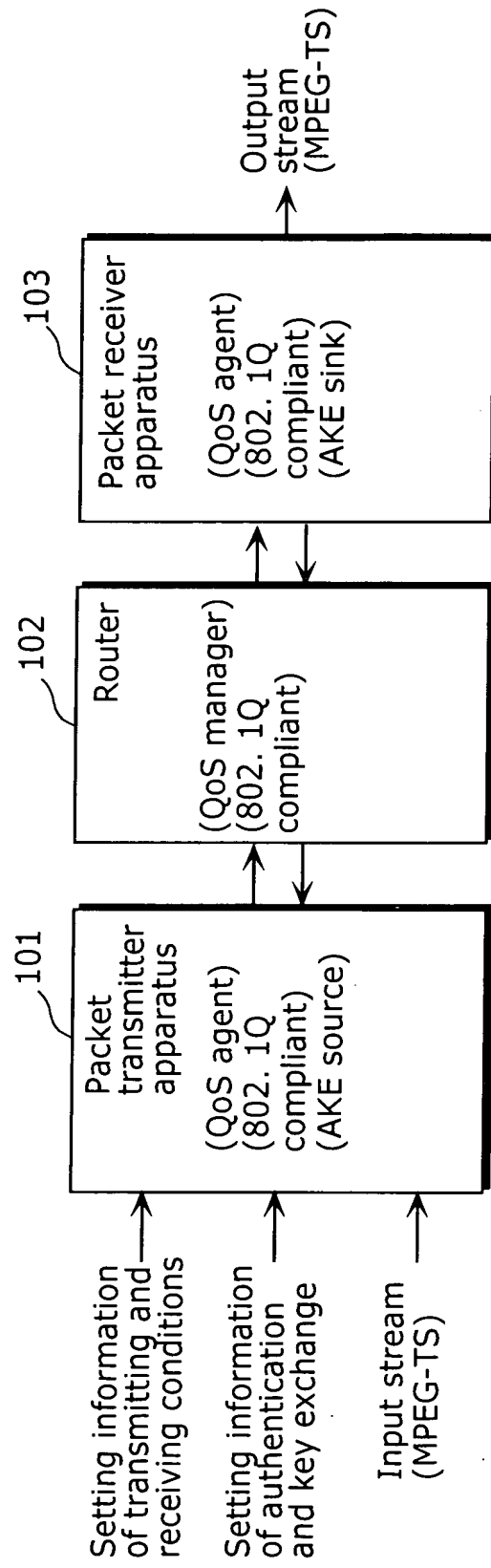


FIG. 6

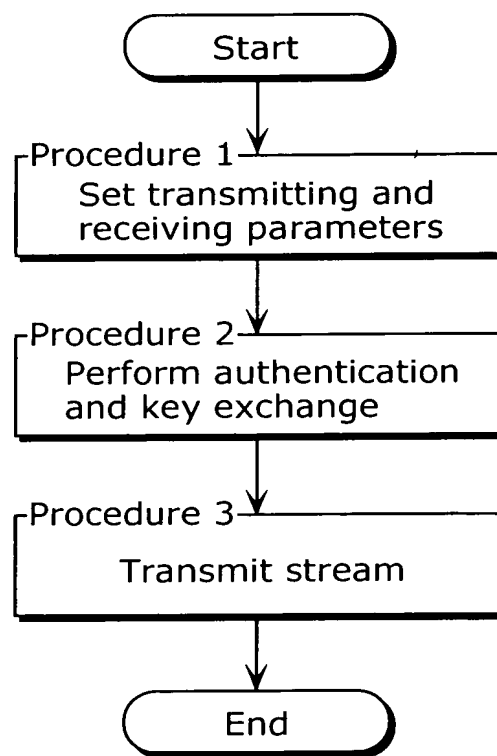


FIG. 7

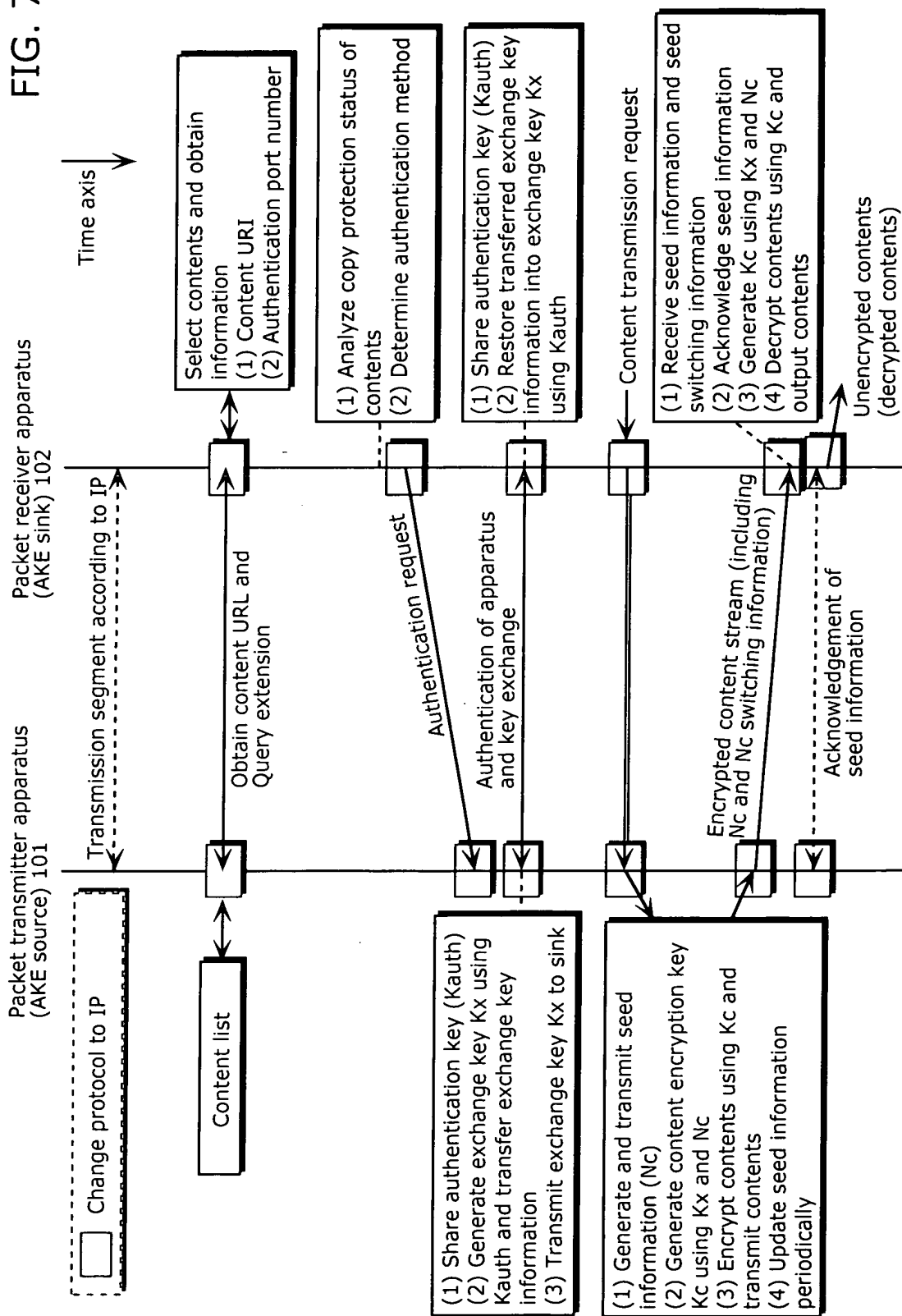


FIG. 8

The diagram illustrates a network architecture for a two-story building. The building is divided into a **Second floor** (302) and a **First floor** (301). The **Second floor** contains a **SW-HUB** (304) connected to a **TV**, a **PC**, and a **DVD**, all at 100 Mbps. An **Air conditioner** is connected to the SW-HUB via **ECHONET**. The **First floor** contains a **Router (SW-HUB)** (303) connected to a **TV**, a **PC**, a **DVD**, and a **Refrigerator**, all at 100 Mbps. An **Air conditioner** is also connected to the Router via **ECHONET**. The Router (SW-HUB) (303) is connected to the **Internet** (represented by a cloud) via **FTTH (100 Mbps)**. A lightning bolt symbol is shown near the top left, indicating a power source or signal input.

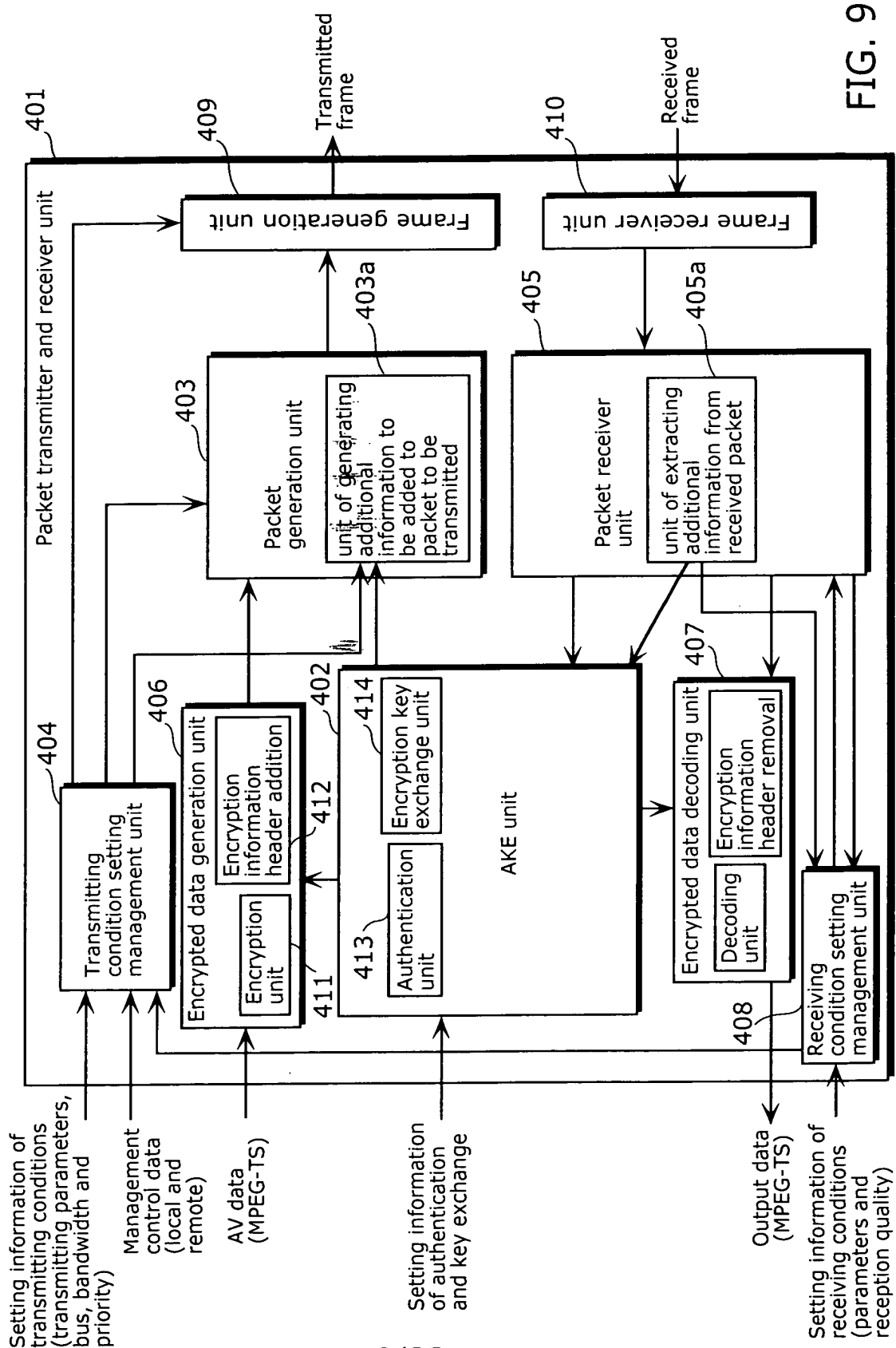
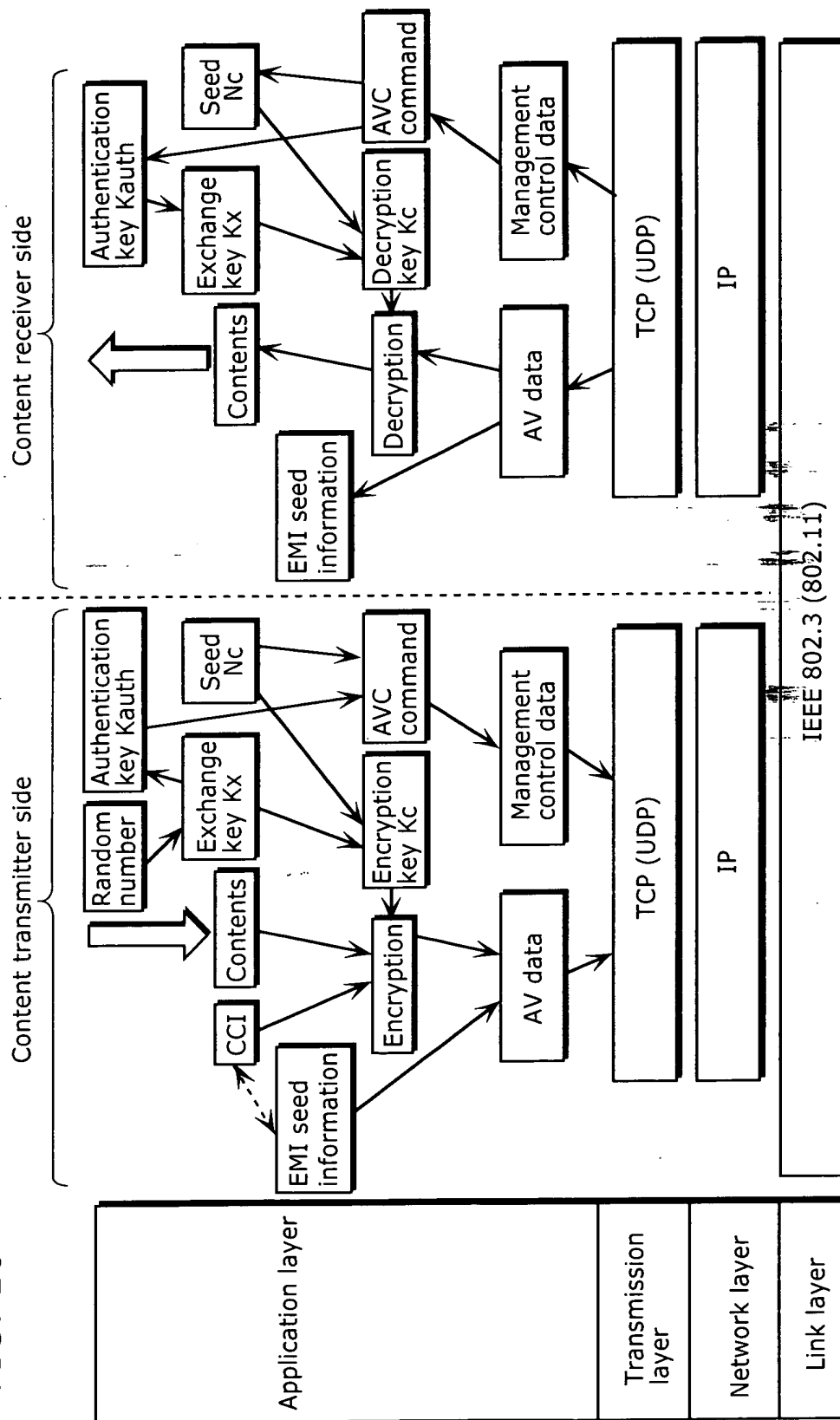


FIG. 9

FIG. 10



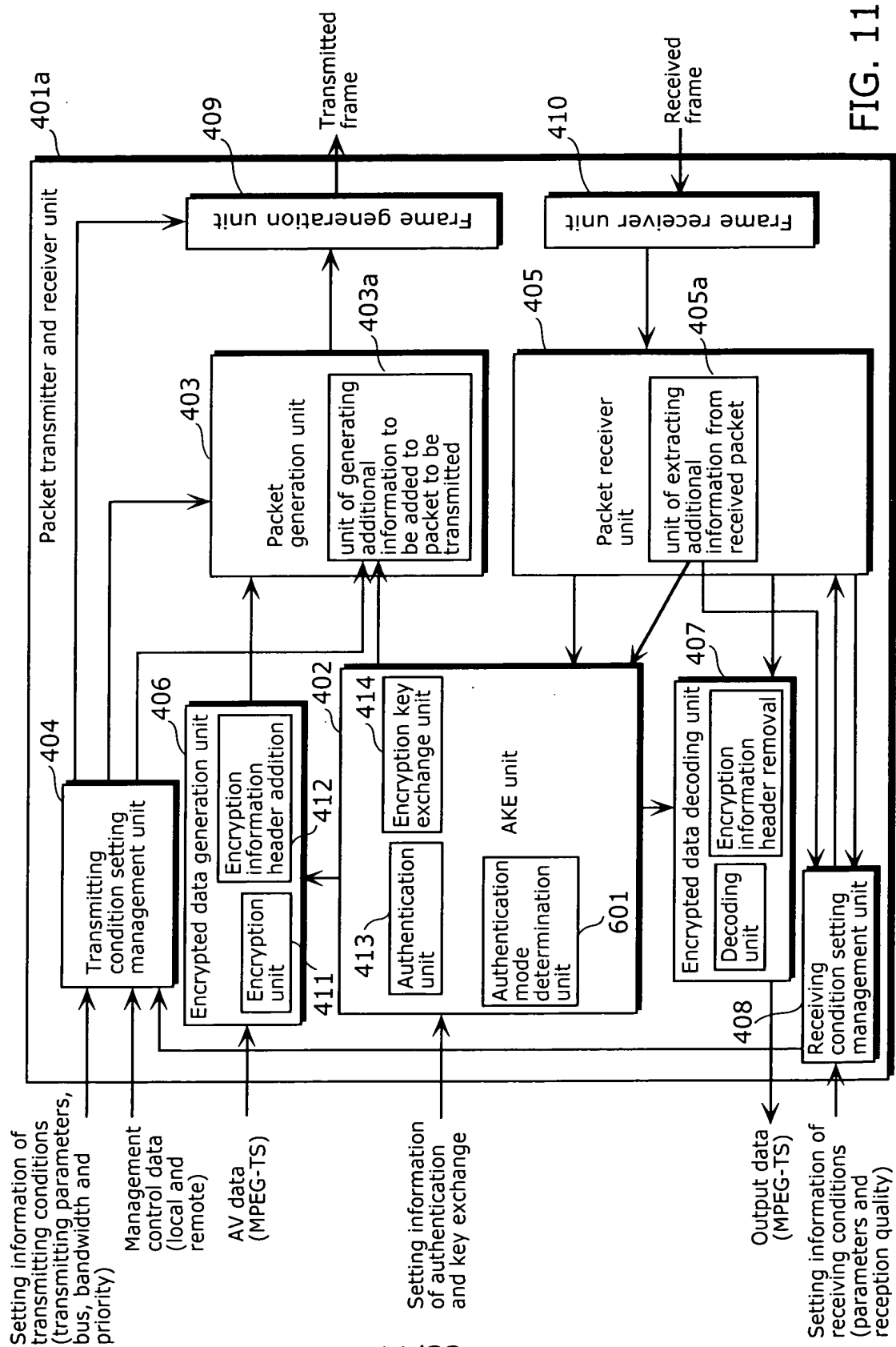


FIG. 11

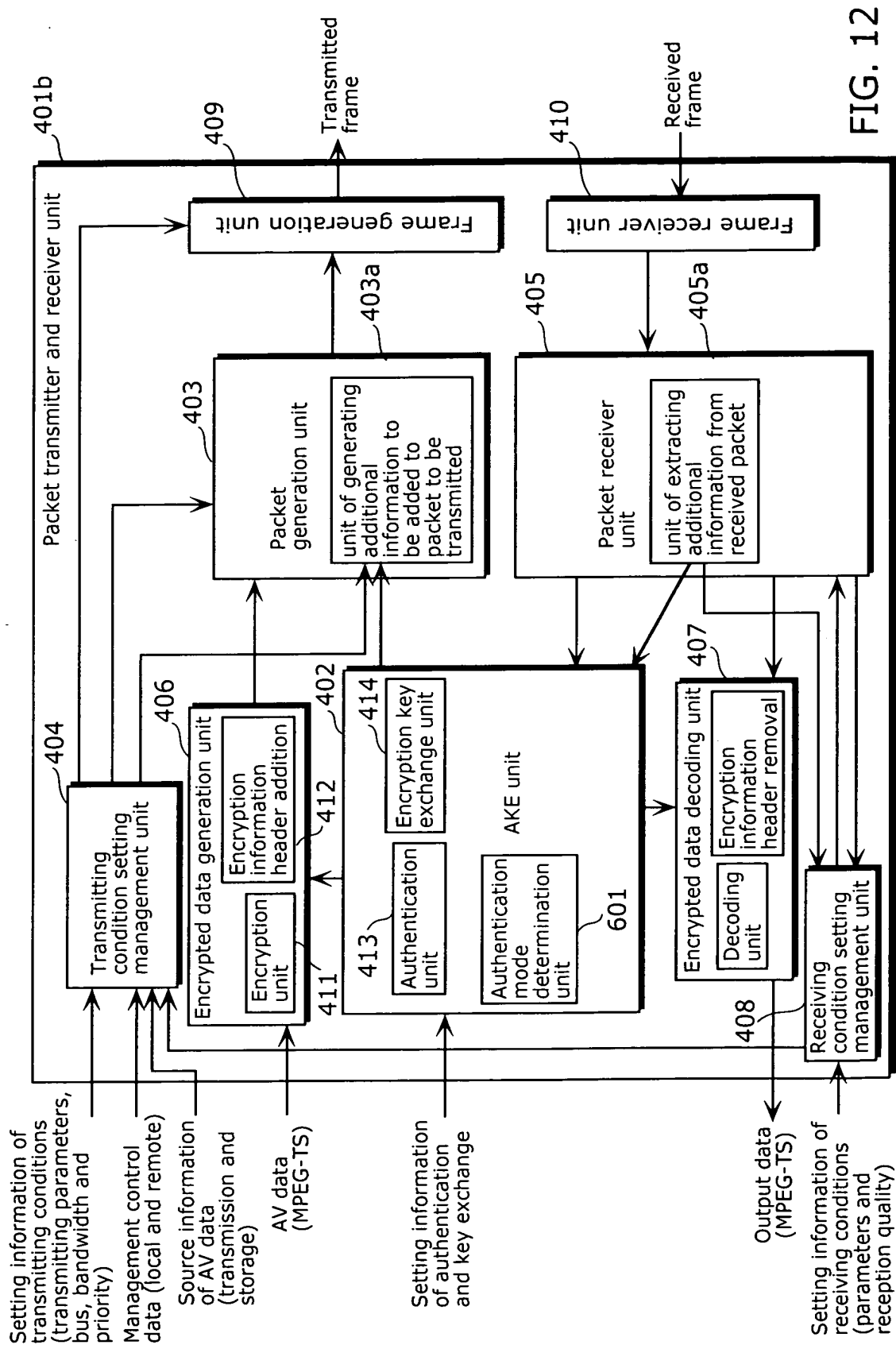


FIG. 12

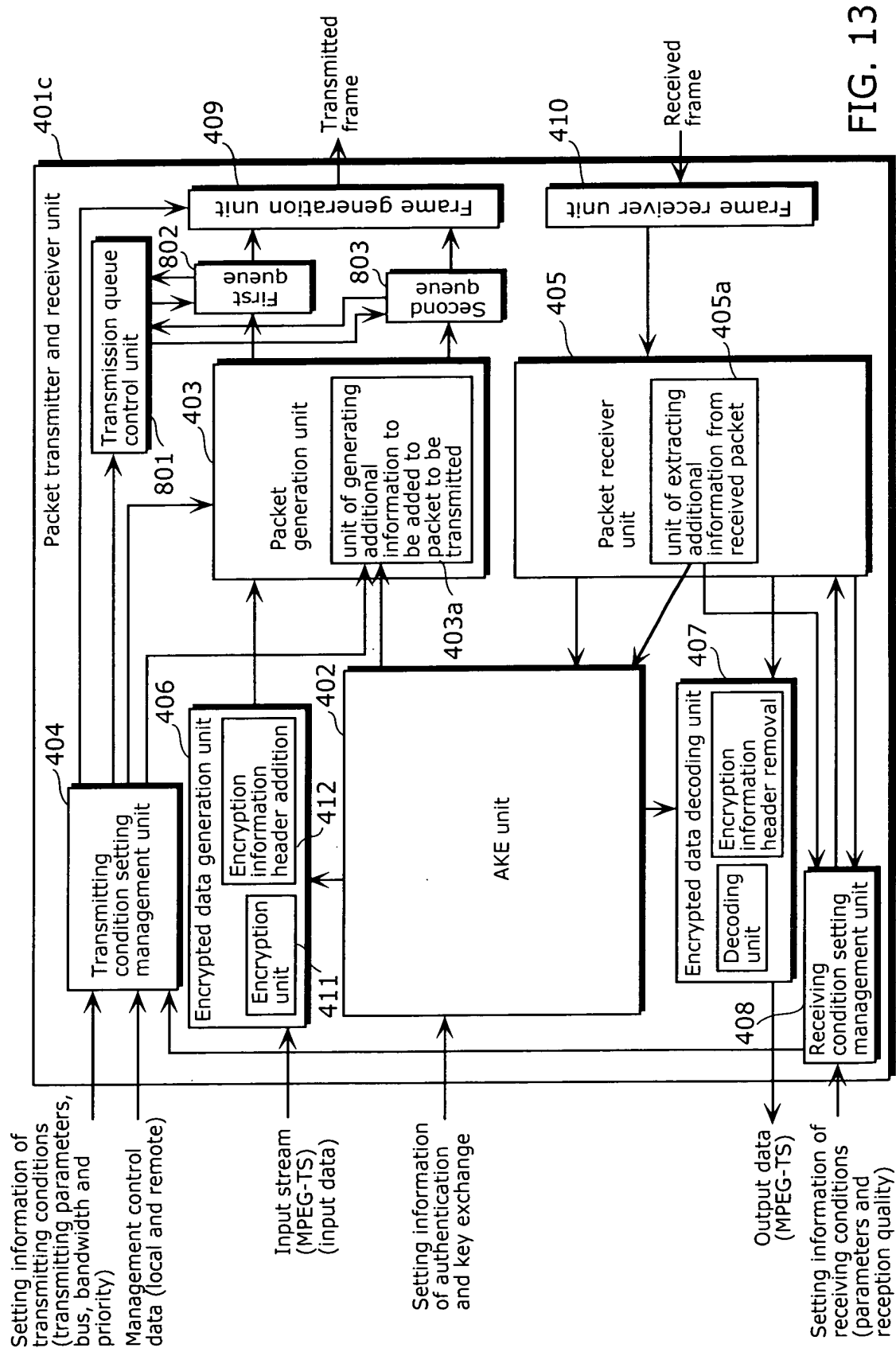


FIG. 13

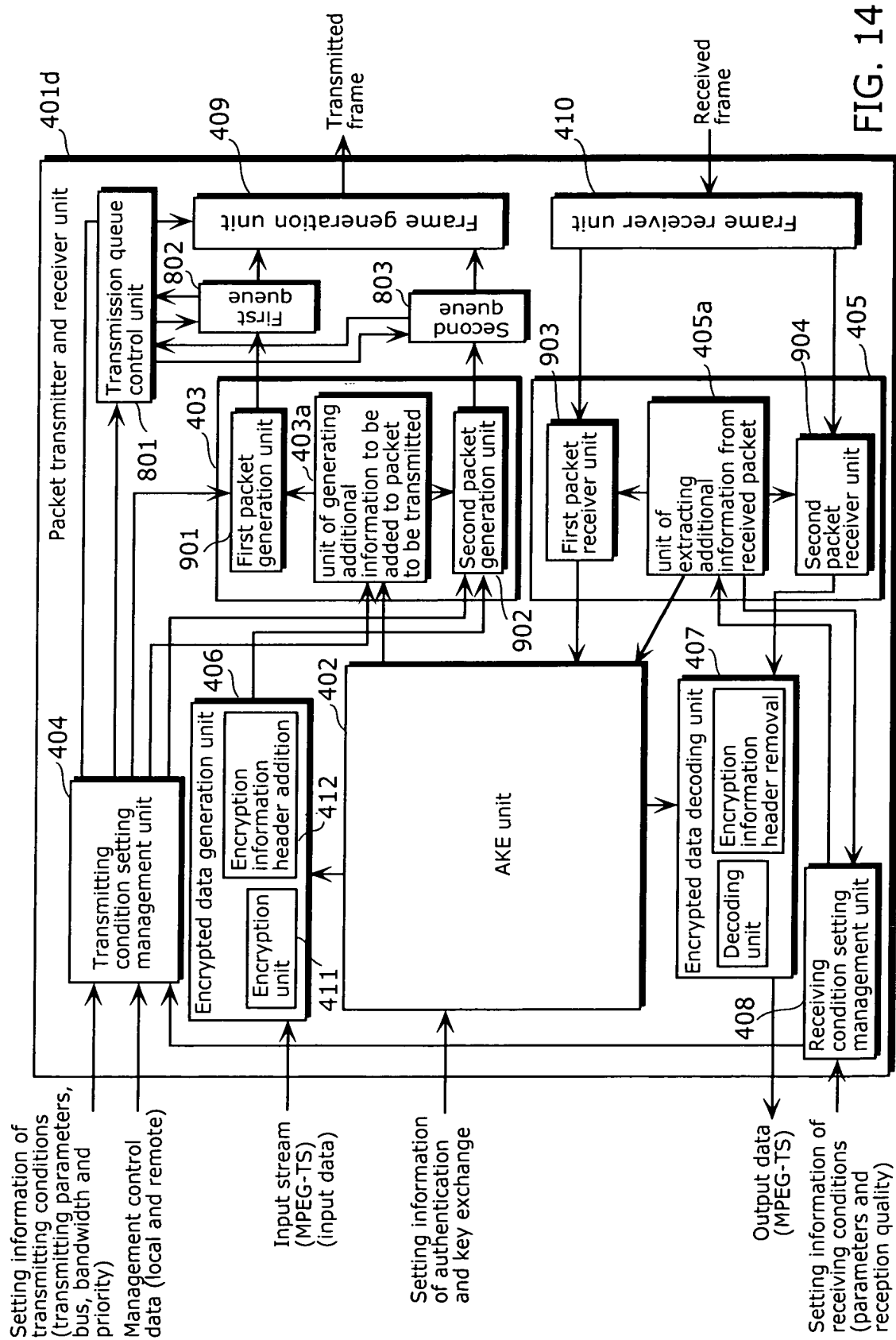
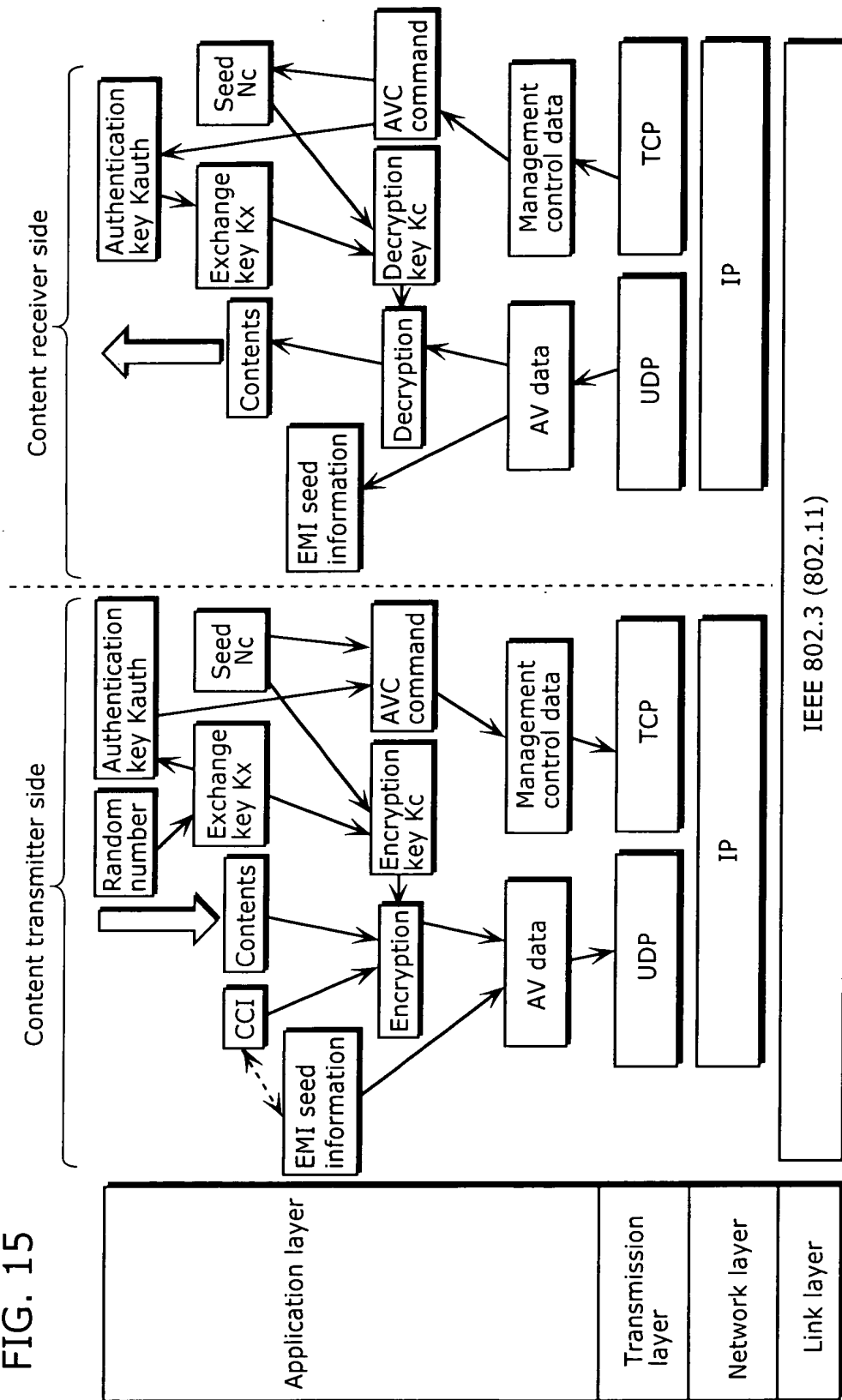


FIG. 14

FIG. 15



The diagram illustrates the structure of an Encrypted TS packet. It shows the following components and their sizes:

- Standard Ethernet header:** 14 bytes (802.1Q: 18 bytes)
- Ethernet header extended according to 802.1q:** 6 bytes (6 bytes 2 bytes)
- Encryption information header:** 6 bytes (6 bytes 188 bytes)
- BCID Time-stamp:** 6 bytes 42 bytes
- TC MPEG-TS:** 6 bytes 188 bytes
- Encrypted TS data:** 10 bytes
- Additional information:** 4 bytes 64 bytes 12 bytes
- EMI Seed information reserved:** 4 bytes 64 bytes 12 bytes

The diagram also shows the flow of data from the standard headers to the encrypted TS data, and the flow of data from the encryption information header to the encrypted TS data.

Legend:

- BCID: Base Clock ID
- TC: Time-code
- MPEG-TS: Prepared in ISO/IEC13818
- EMI: Encryption Mode is Indicator
- O/E: Odd/Even
- Note that EMI and O/E is defined in DTCP
- DTCP: Digital Transmission Content Protection
- DA: Destination Address
- SA: Source Address
- TPID: Tag Control ID
- TCI: Tag Control Information
- Priority: User Priority, Usage of priority is defined in ISO/IEC 15802-3
- CFI: Canonical Format Indicator
- VID: VLAN Identifier

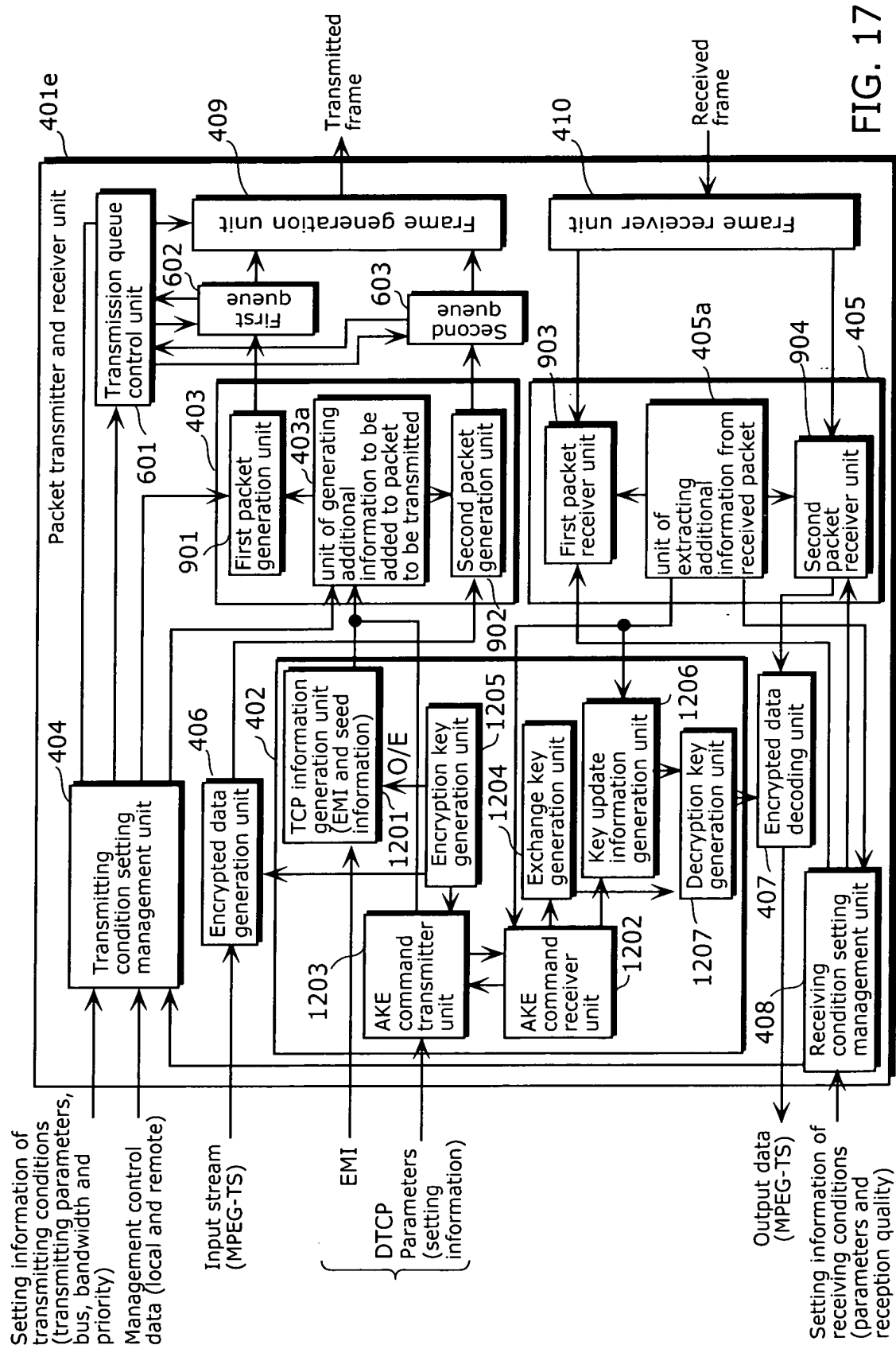


FIG. 17

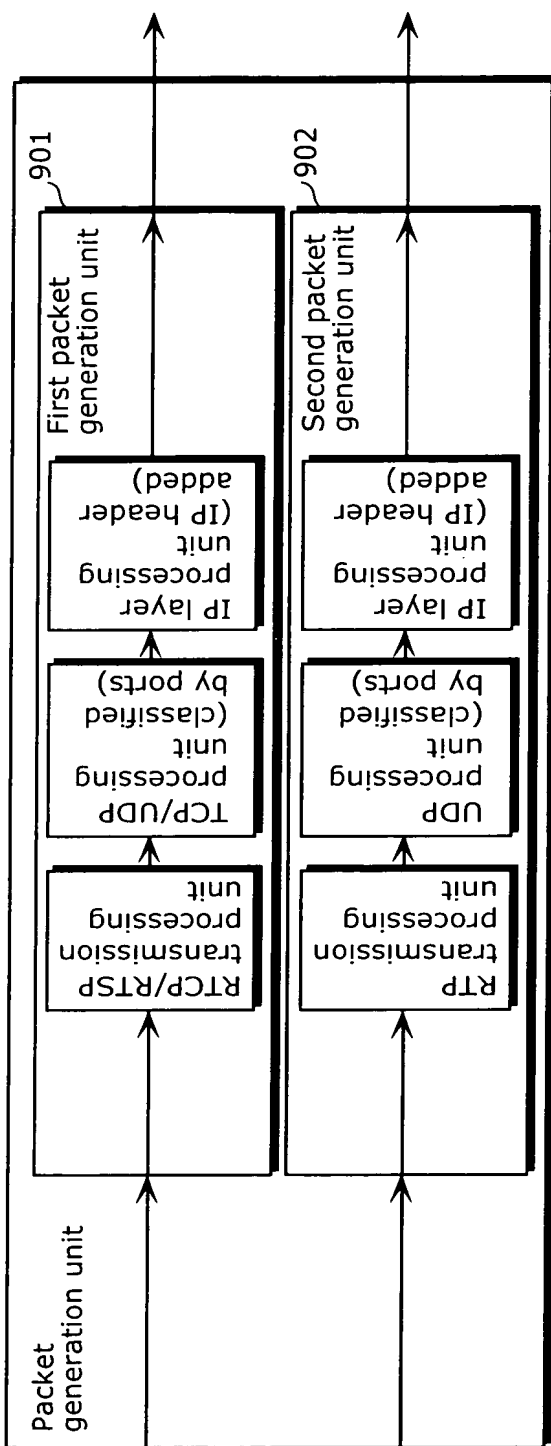


FIG. 18A

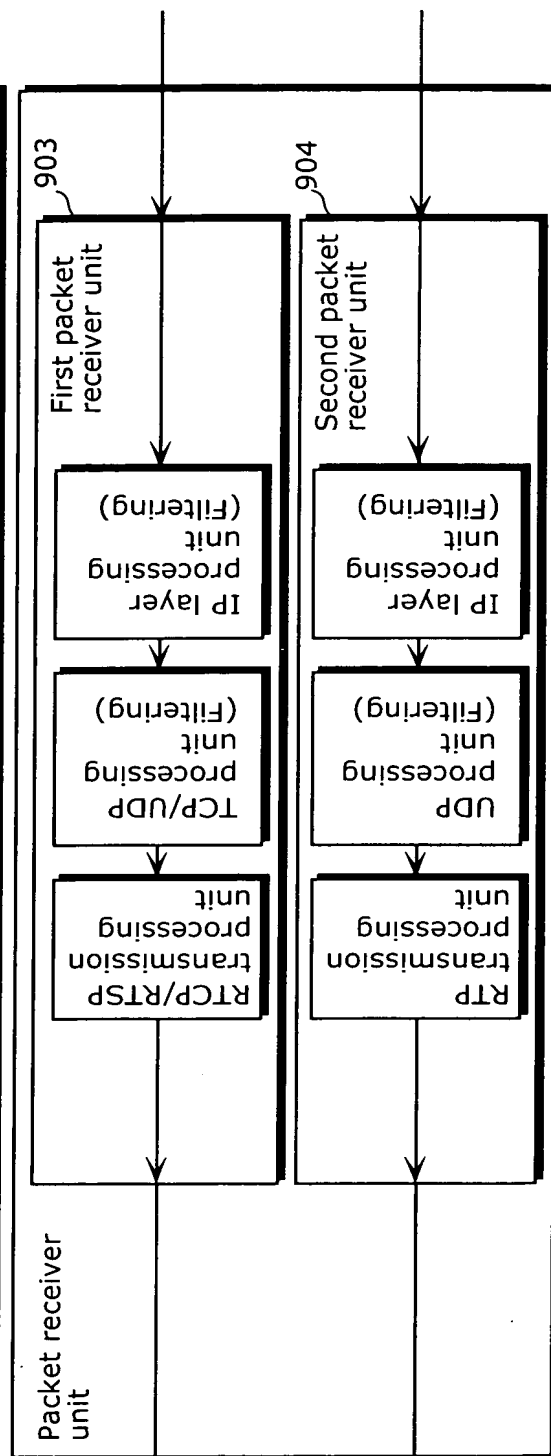
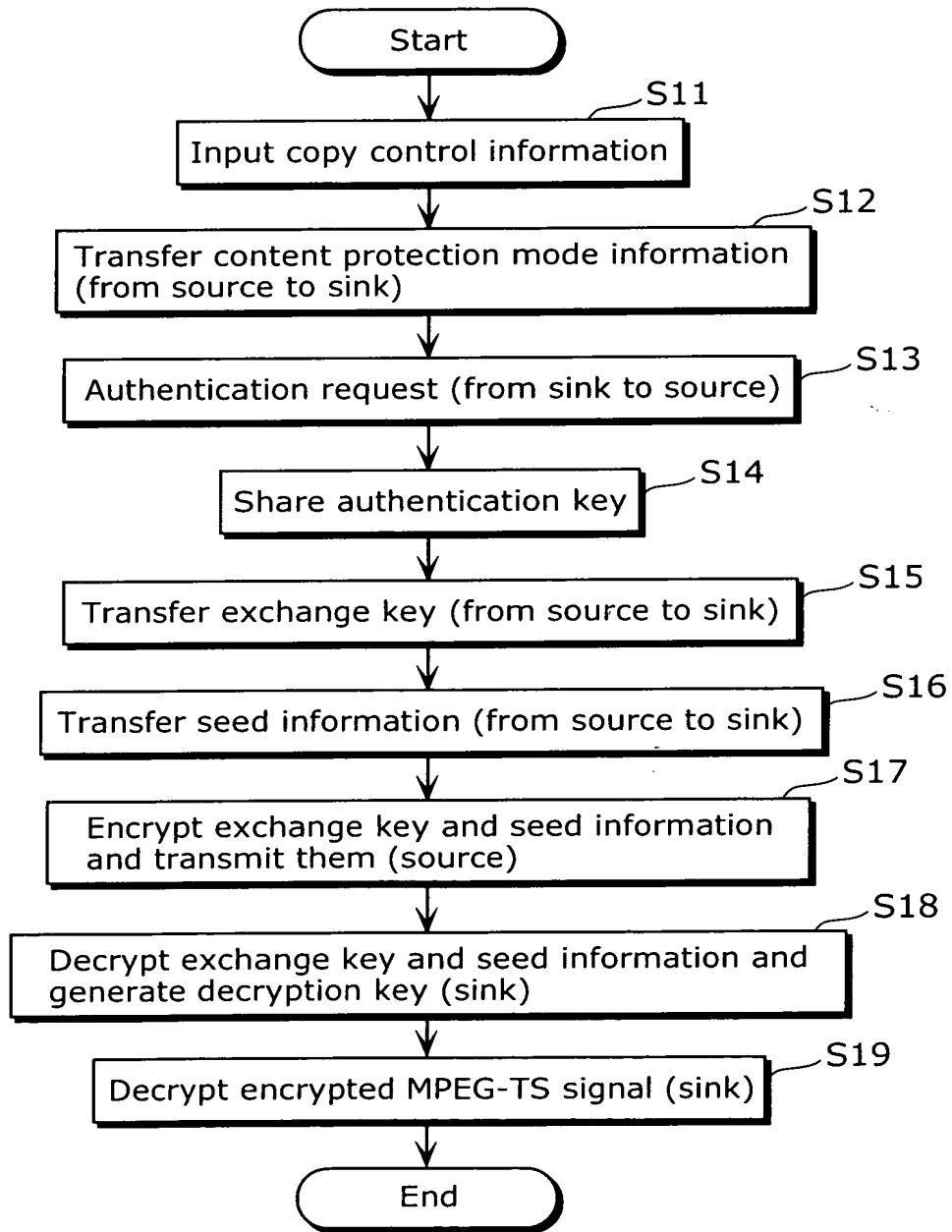


FIG. 18B

FIG. 19



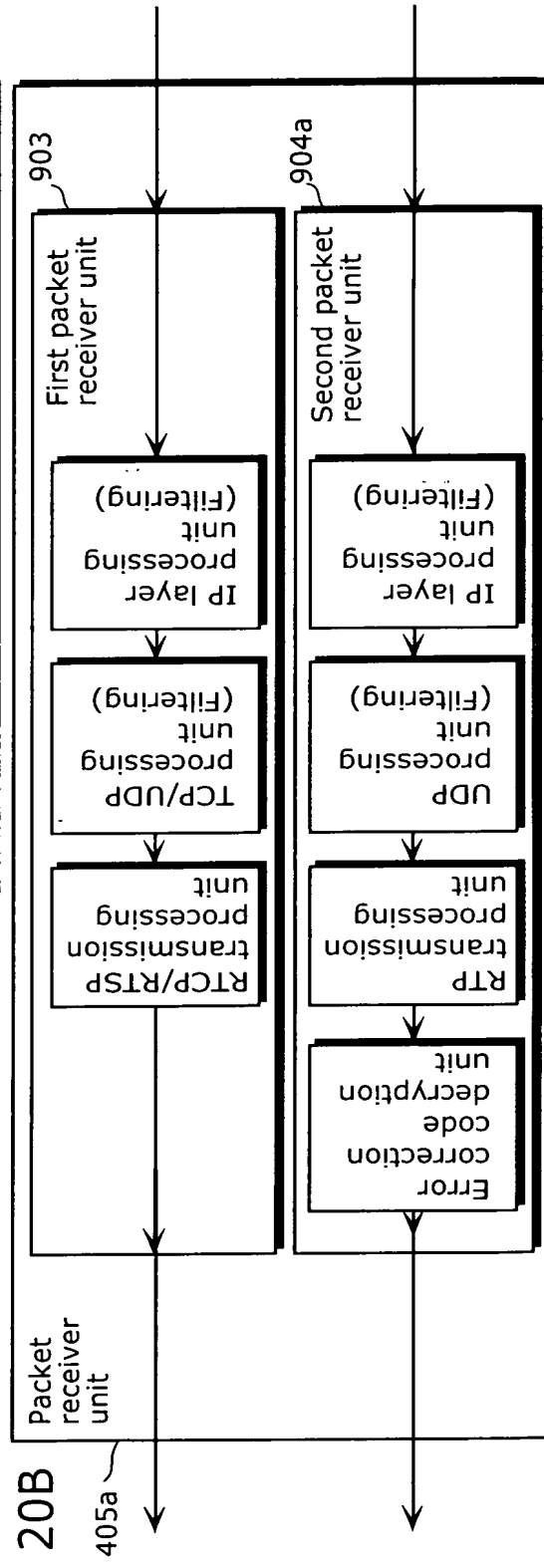
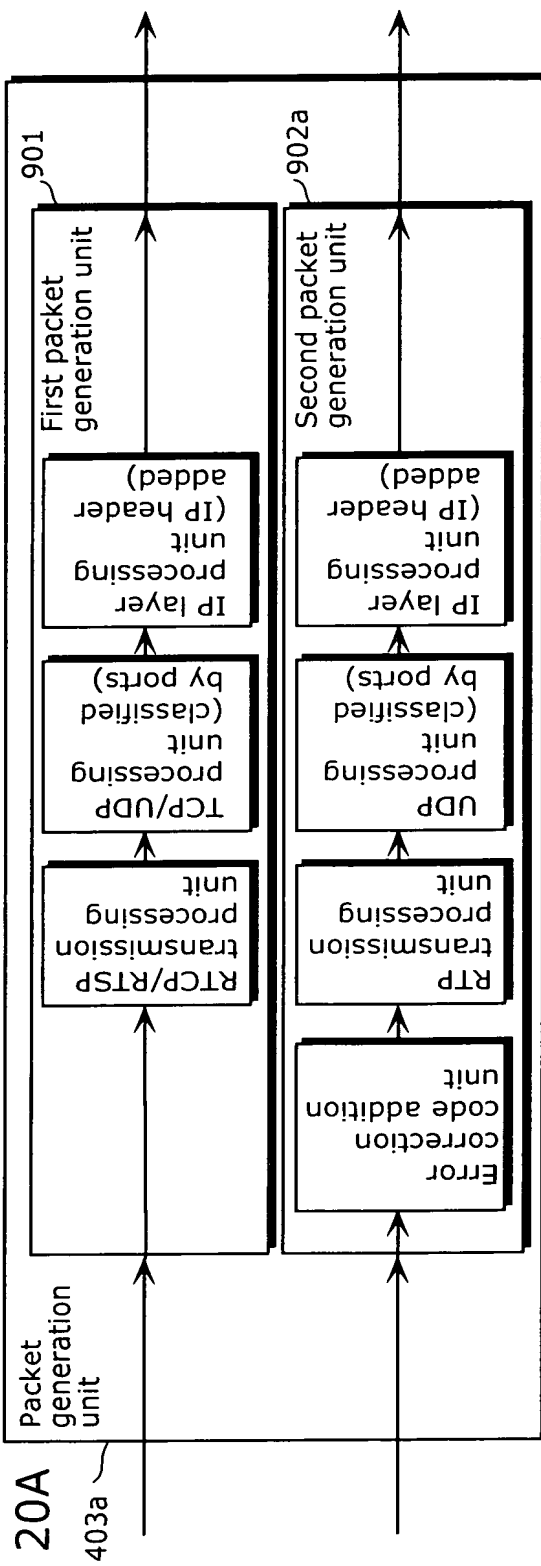


FIG. 21

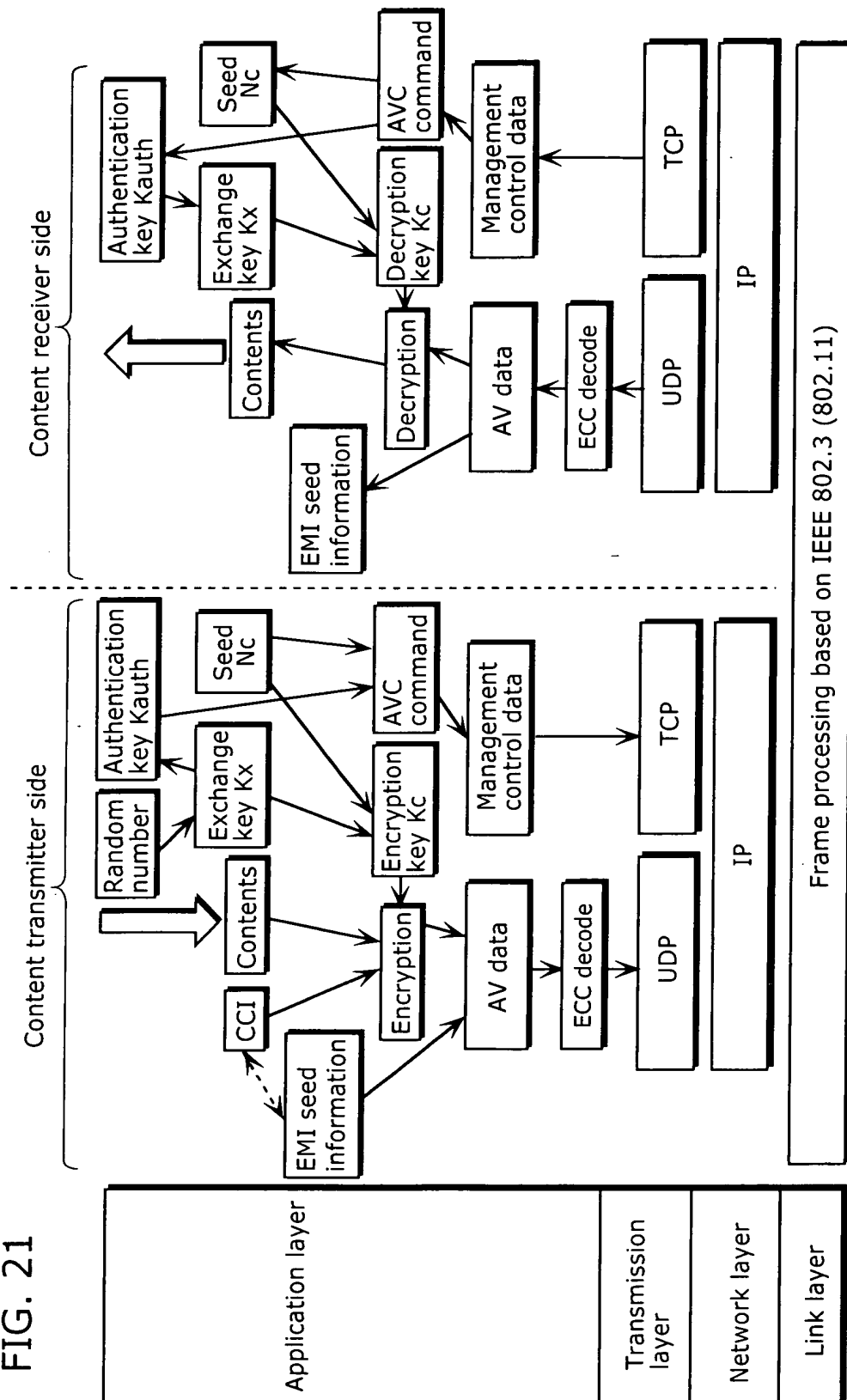


FIG. 22

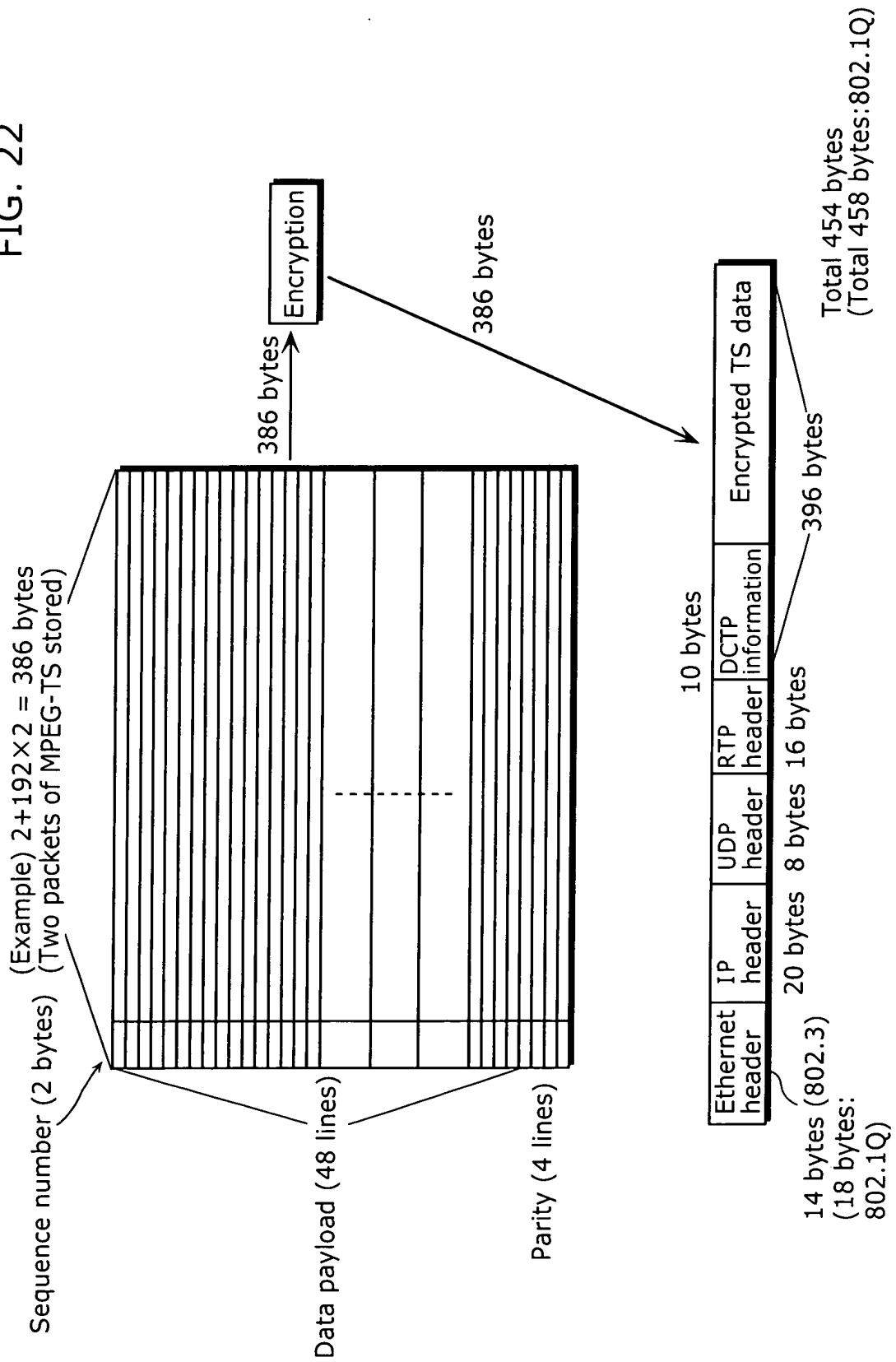
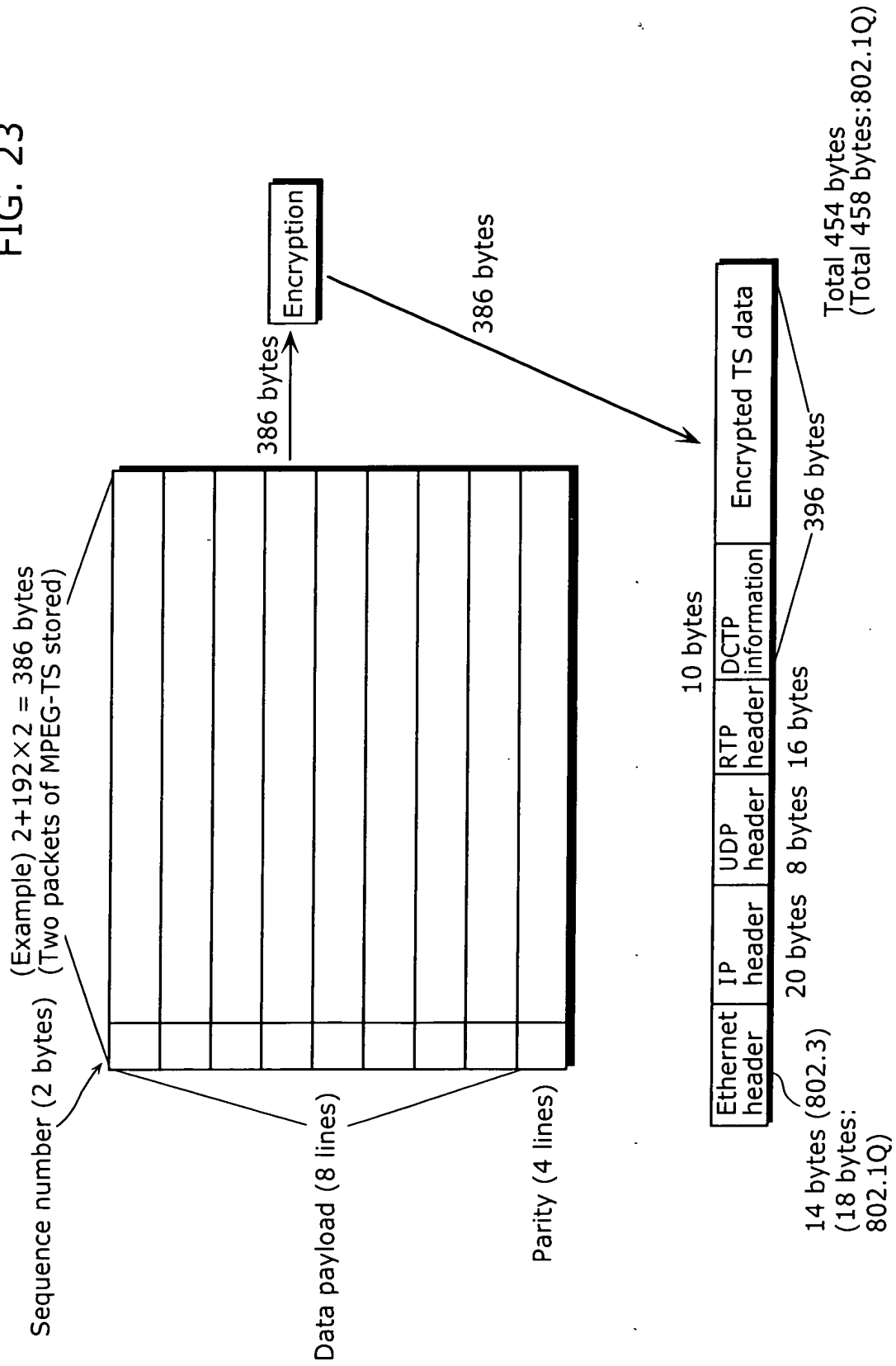


FIG. 23



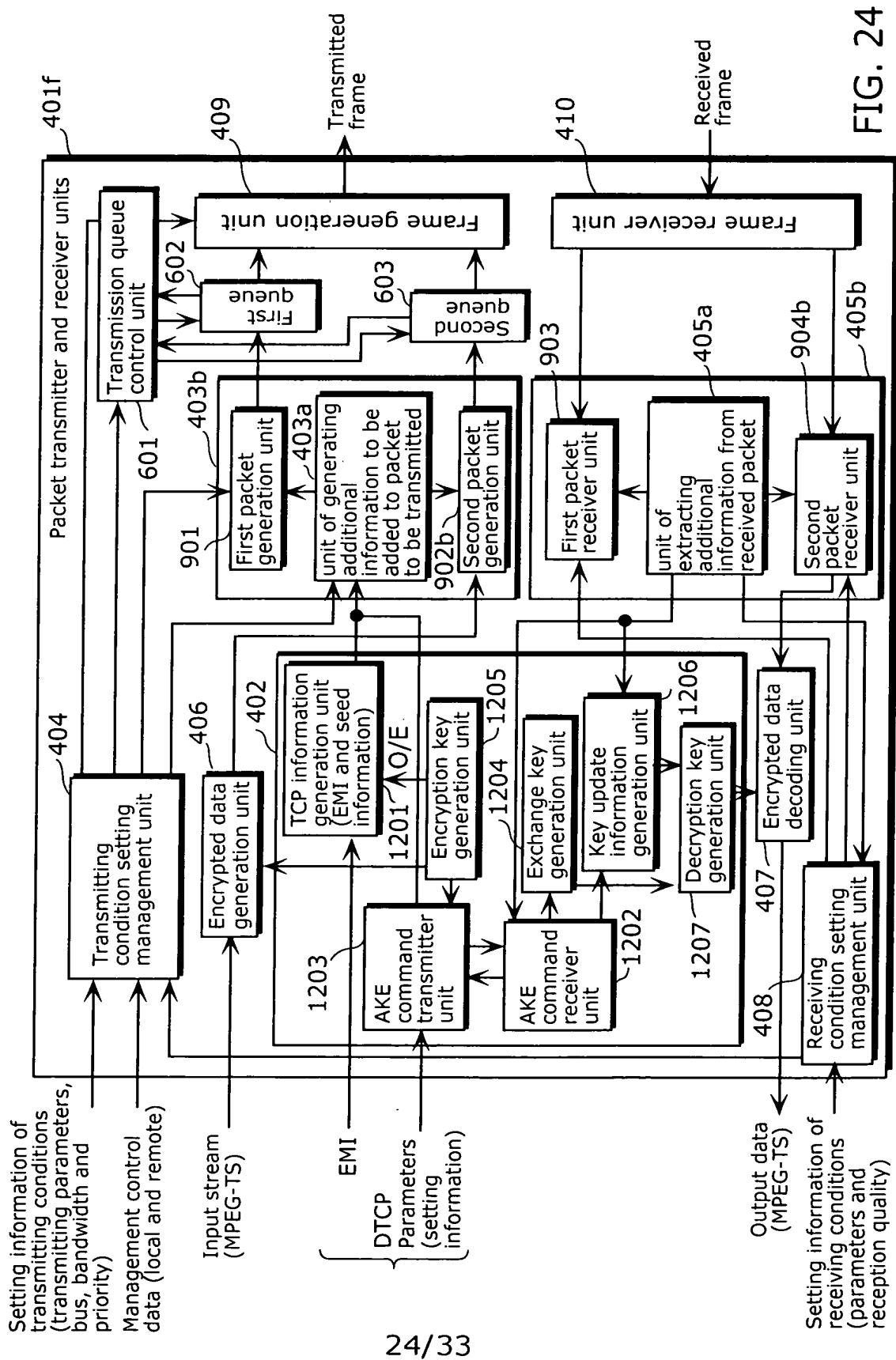
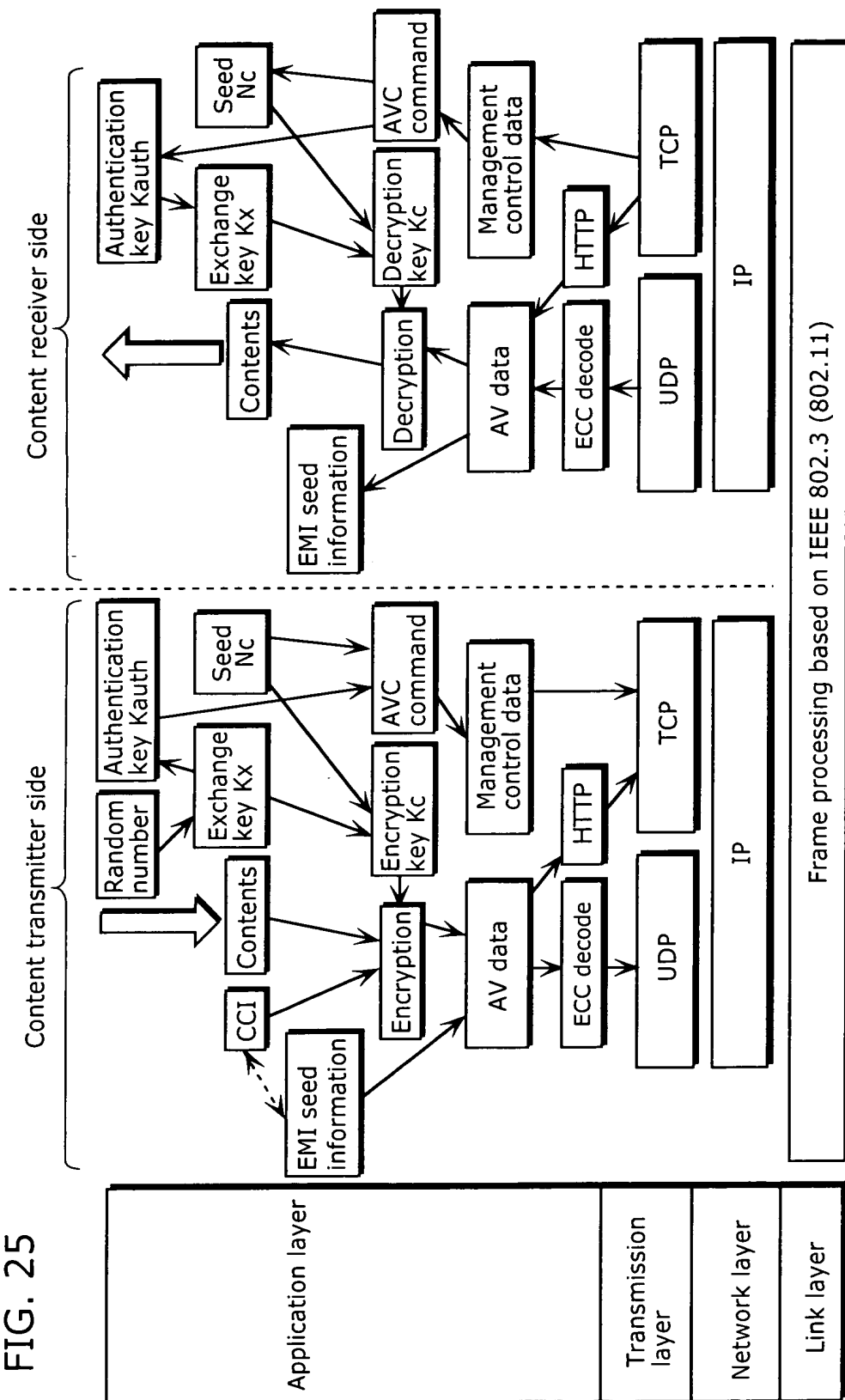


FIG. 24

FIG. 25



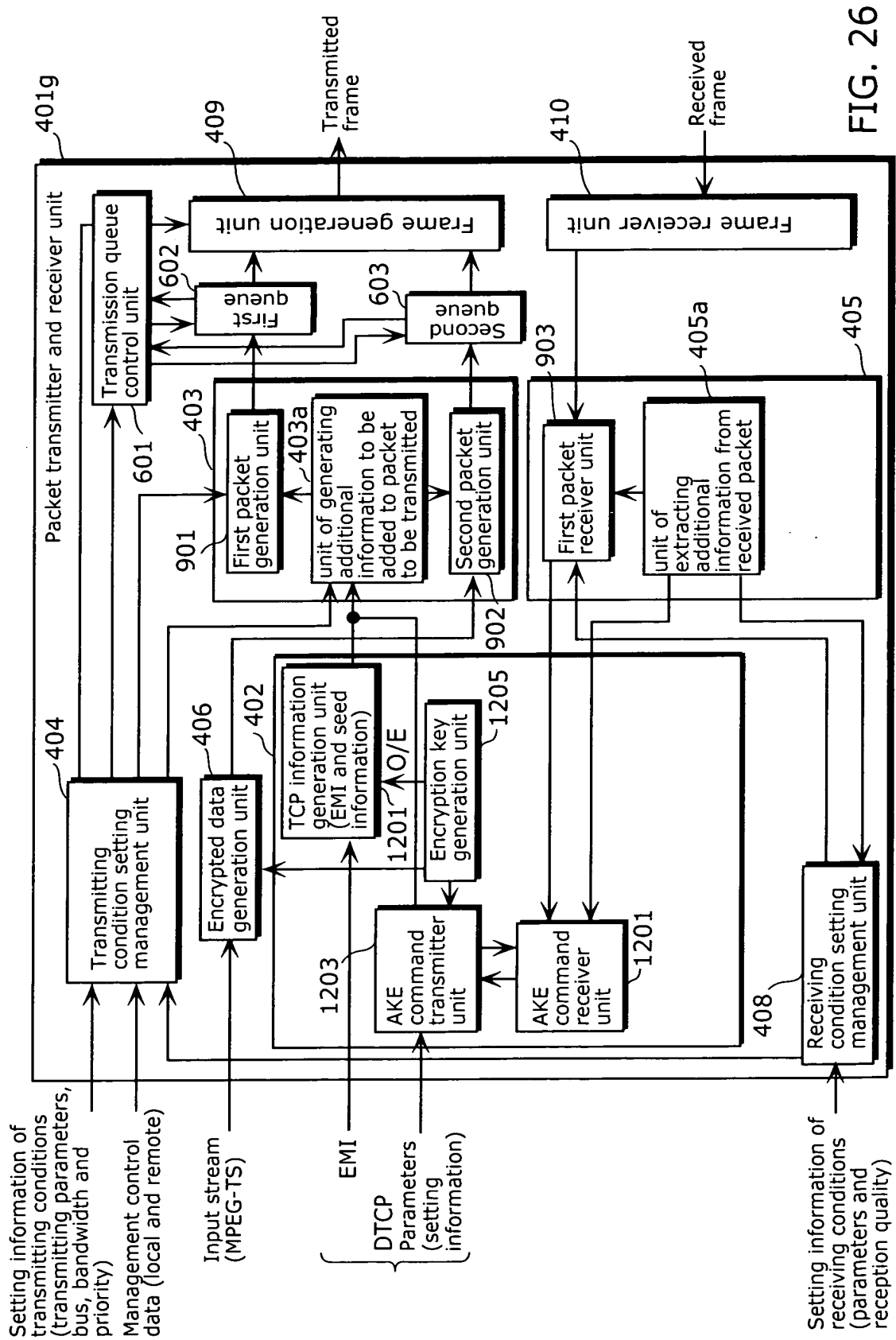


FIG. 26

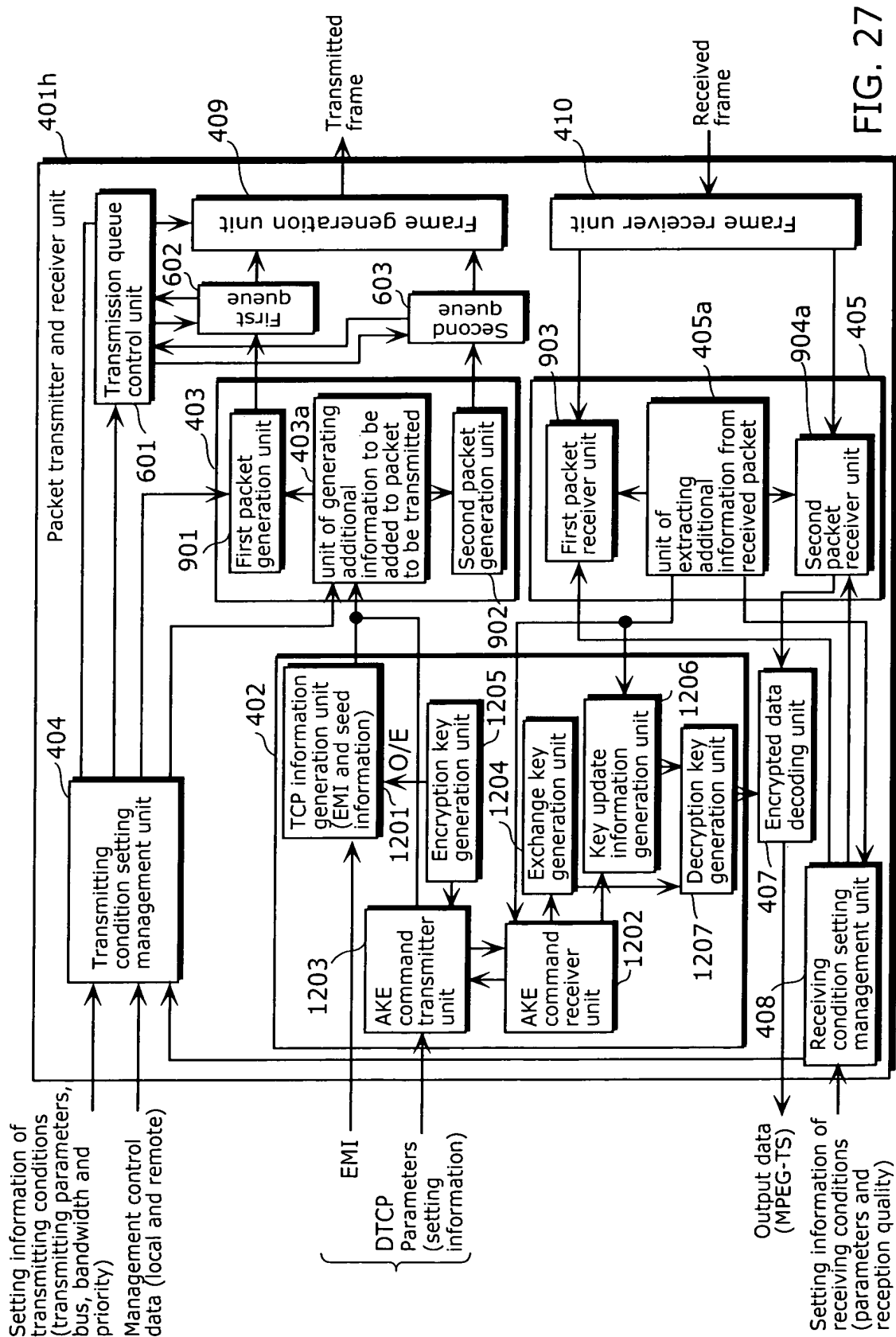


FIG. 27

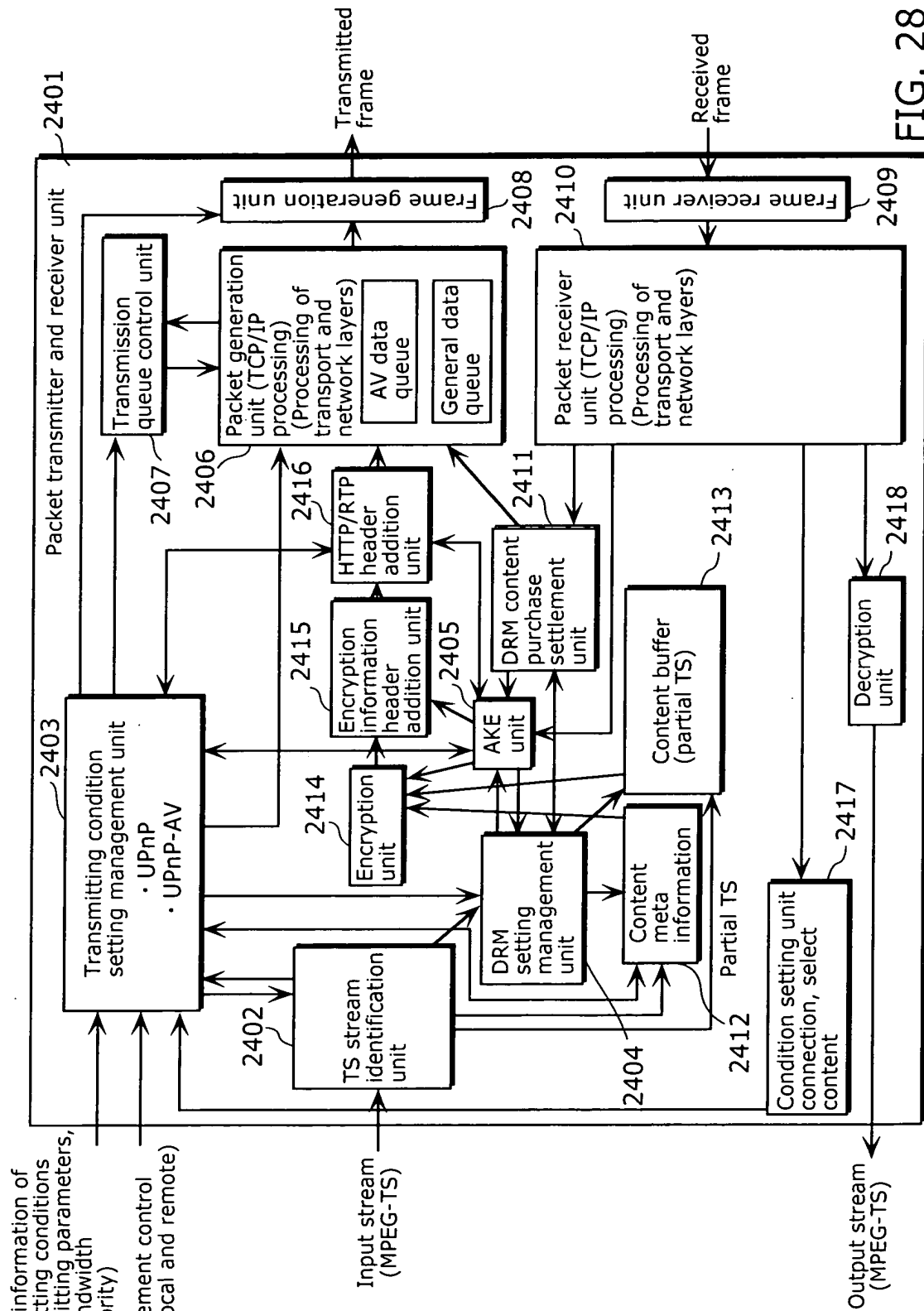


FIG. 28

FIG. 29

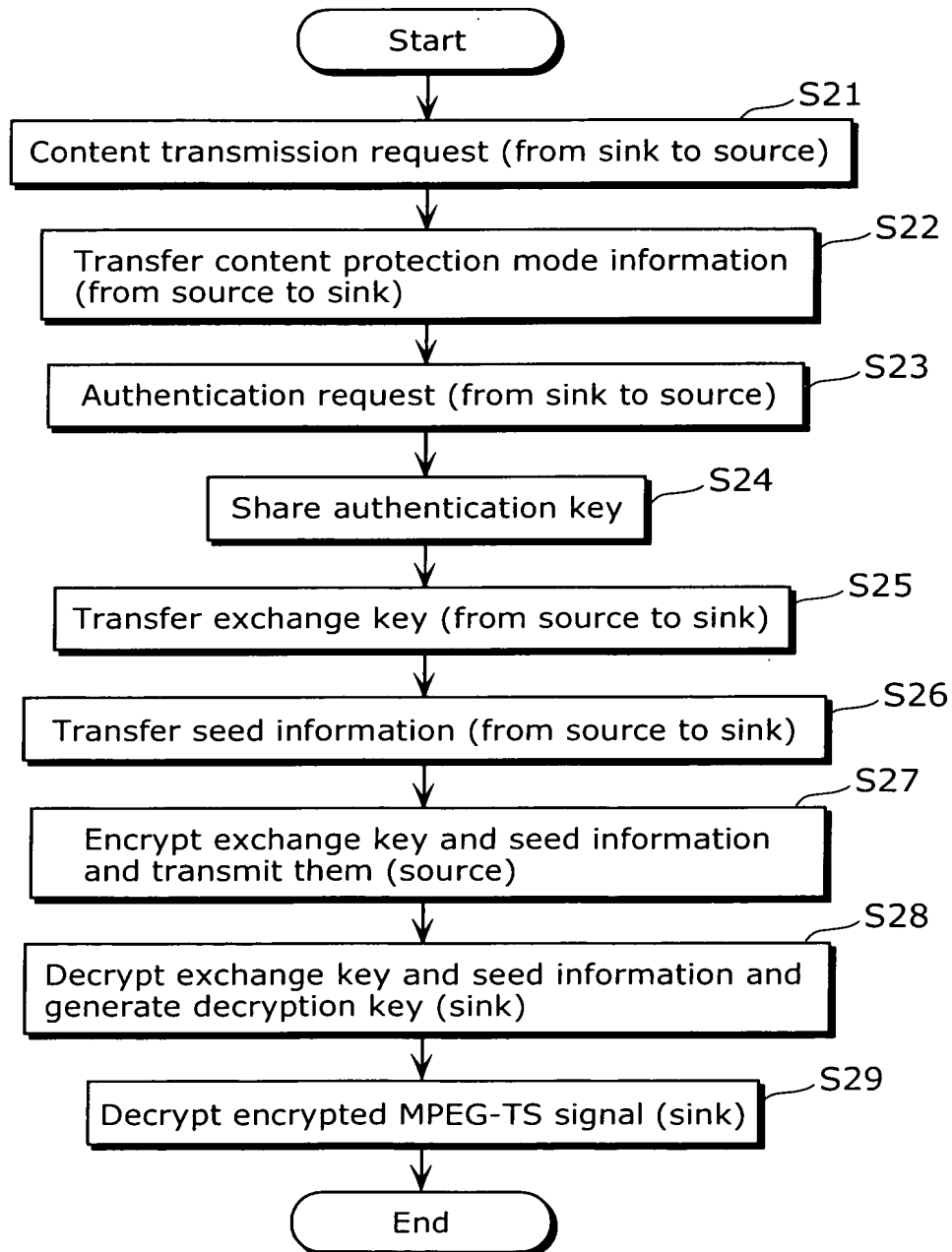
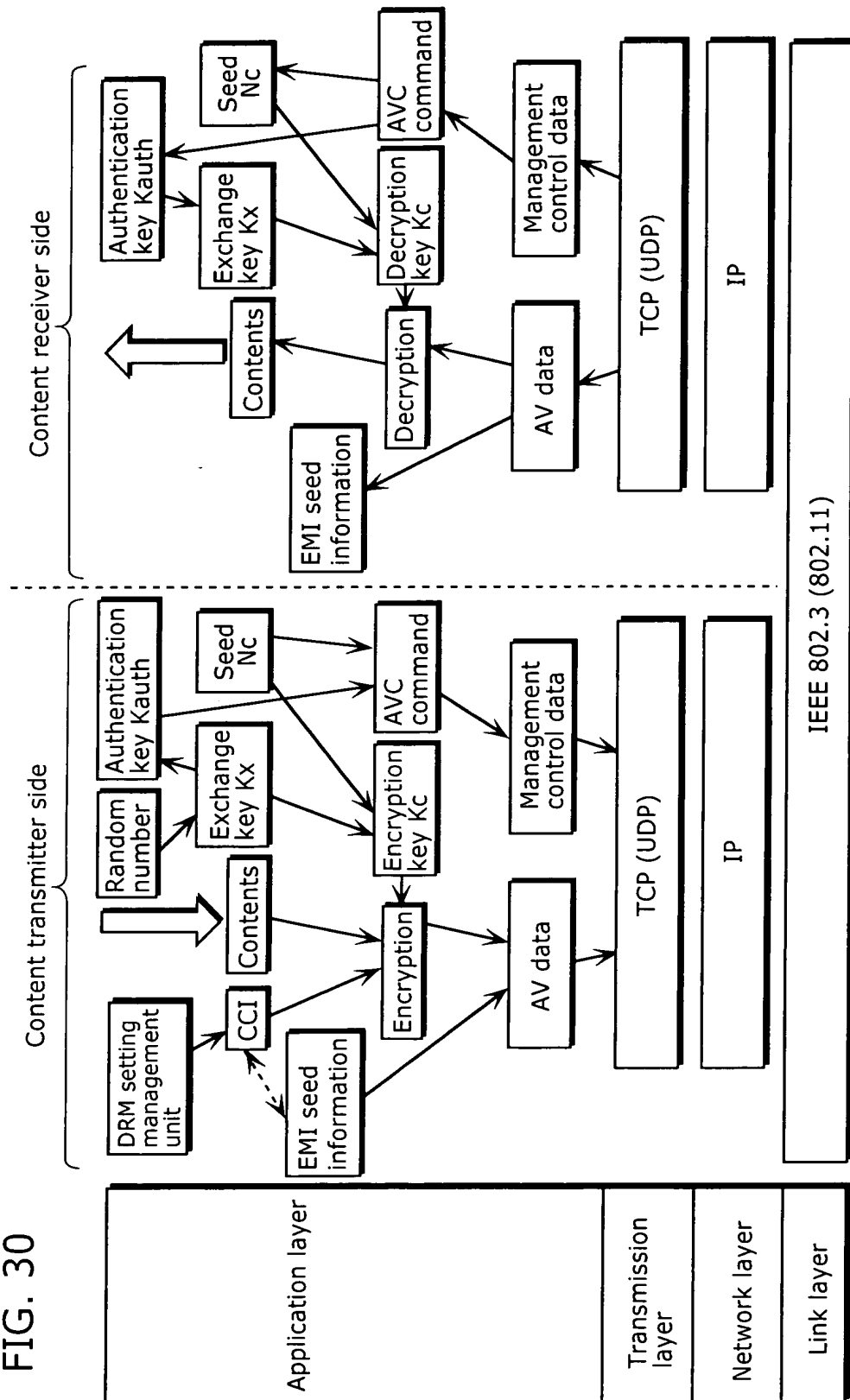


FIG. 30



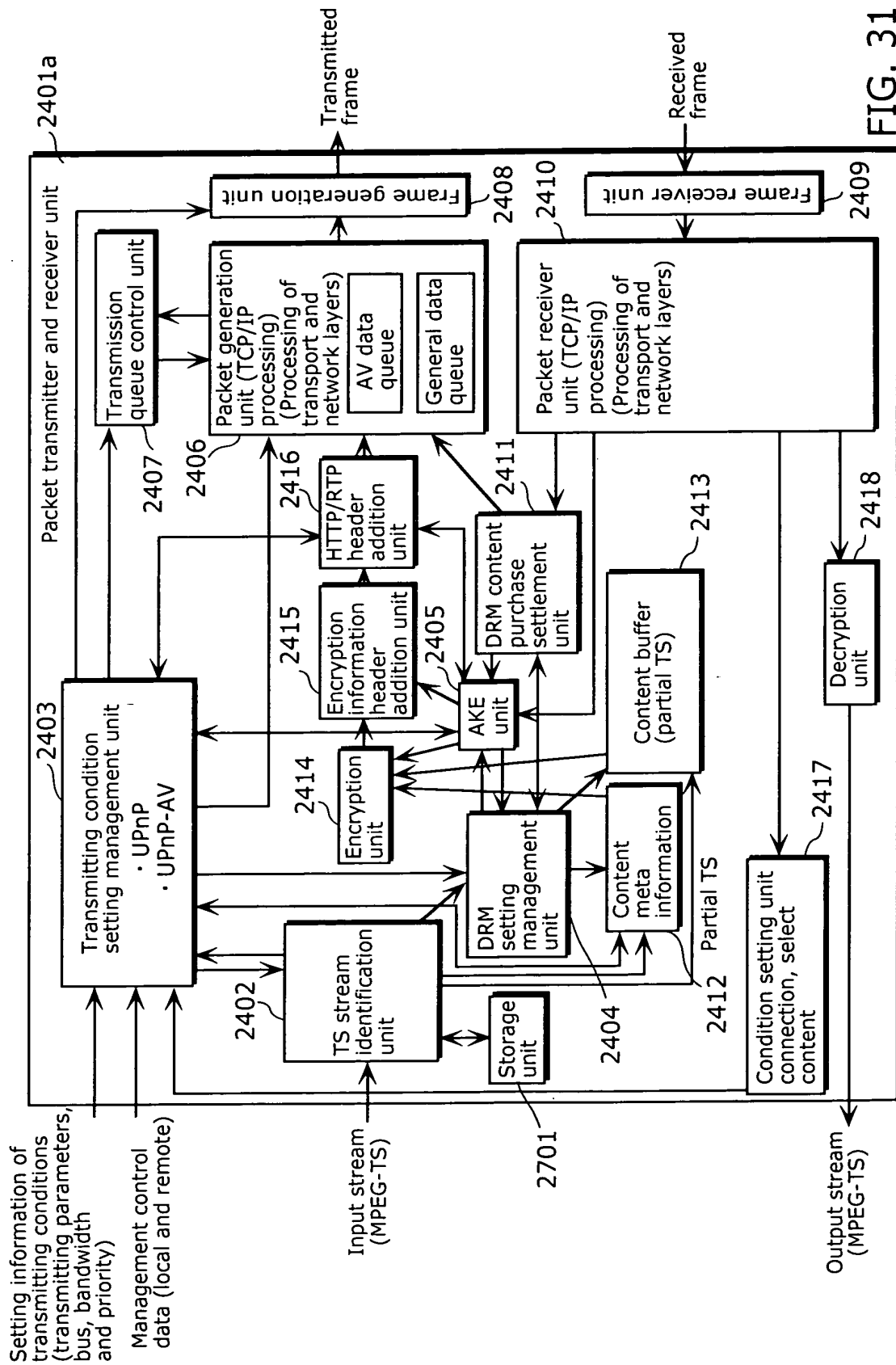


FIG. 31

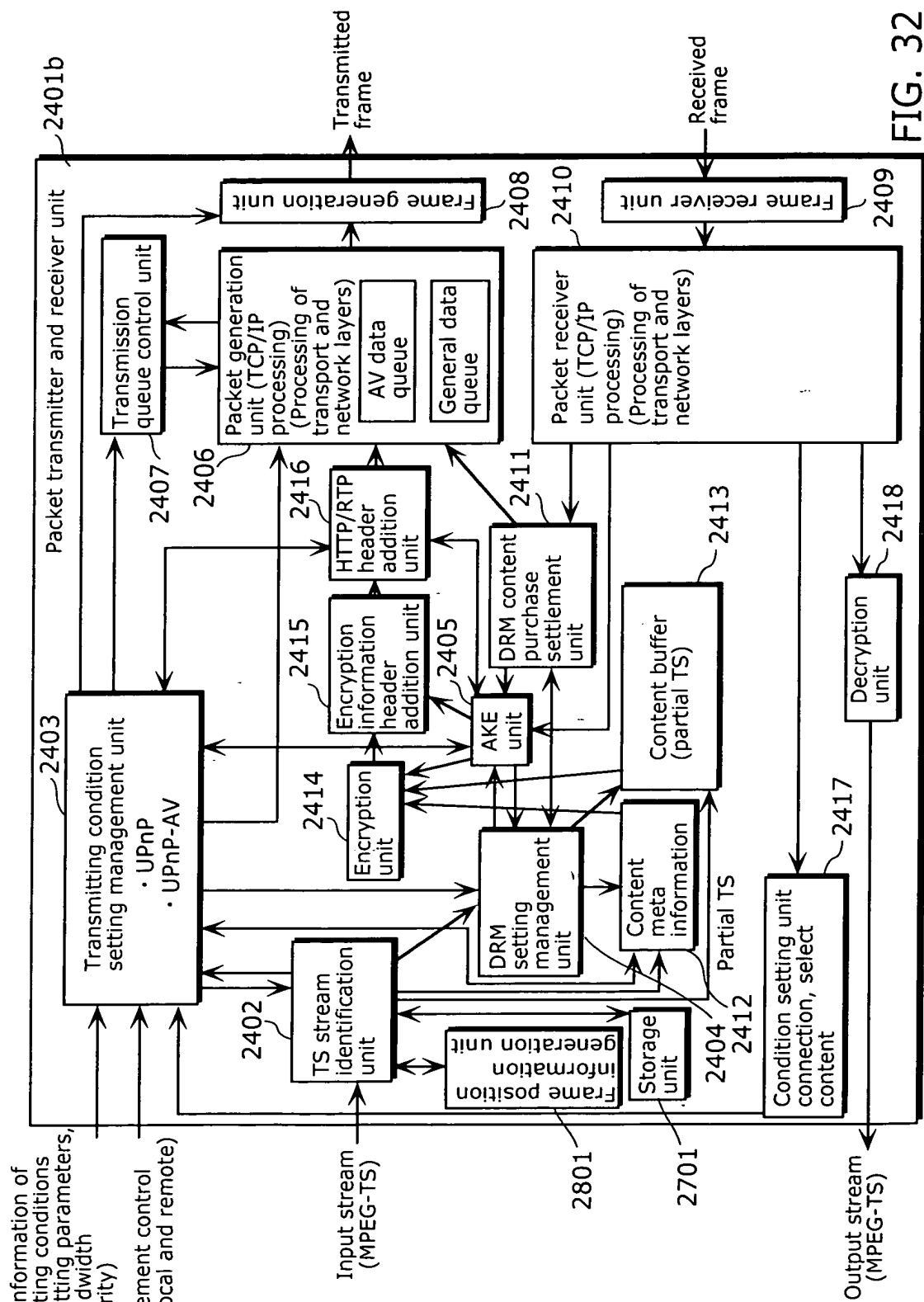


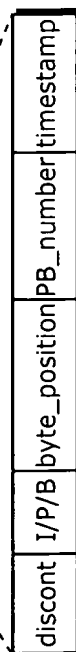
FIG. 32

FIG. 33

Configuration of picture information file (PIF:Picture Information File)



80bits



1bits

2bits

32bits

5bits

40bits

2bits



Read out continuity information, position information and time information of I, P and B pictures from HDD or BD disc storing partial TS, and write them on integrated "picture information file". Terminal in remote location can refer to each picture position by referring to this picture information file through network, even when file has different TS storage format. This enables to perform slow playback, fast playback etc. finely.

discont: Discontinuity flag of partial TS packet
1-bit representation "0" represents continuity,
and "1" represents discontinuity

IPB: Picture identification flag for I, P or B picture
"00" represents I picture, "01" represents P picture,
and "10" represents B picture
Description "00" representing I-picture position required
Descriptions "01" representing P-picture position and
"10" representing B-picture position not required

Byte_position: Byte positions of I picture, P picture and
B picture in starting file. 32-bit representation

PB_number: Total number of P pictures and B pictures
positioned between I picture and next I picture
5-bit representation

Timestamp: Time information of I picture, P picture and
B picture 40-bit representation